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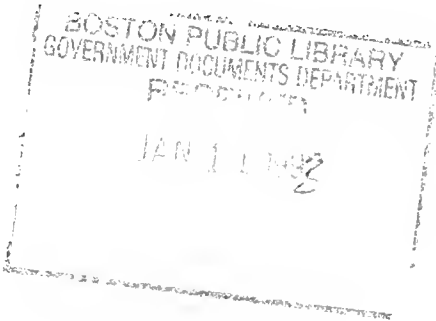
991-92

Boston Public Schools



Annual Systemwide Report On Performance Indicators

1991 - 92



Lois Harrison-Jones, Ed.D.
Superintendent

BPS
Annual Systemwide Report
On Performance Indicators
1991 - 92

Office of Research and Development
October, 1992

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Foreword

This publication of systemwide performance indicators is both an ending point and a starting point for the Boston Public Schools. For those who have worked so conscientiously over the past few years to promote the concept of accountability and to those who have worked so diligently, particularly members of the Boston Compact Measurement Committee, to identify performance indicators, this report is an acknowledgement of their contribution to the school community. While there will be ongoing refinements to the set of performance indicators and reporting procedures, this report marks the end of the initial development phase of the accountability system. At the same time, this publication marks the beginning of a yearly public reporting process whereby members of the broad Boston Public Schools community will have the opportunity to learn how the system has done in the previous year on a variety of indicators. In conjunction with their individual school End-of-Year reports, administrators and teachers will have the responsibility to act upon the information contained in this report to ensure the best possible education for the nearly 60,000 students enrolled in the Boston Public Schools.

We look forward to your comments and suggestions about both the format and the content of this report.

A handwritten signature in black ink, reading "Lori Harrison Jones". The signature is fluid and cursive, with the first name "Lori" being particularly prominent.

Superintendent

Executive Summary

This report summarizes the current status and progress of the Boston Public Schools during the 1991-92 school year in terms of nineteen Performance Indicators. In conjunction with contractual agreements with the Boston Teachers' Union, these indicators were identified by the Boston Compact Measurement Committee and accepted by the Superintendent and the Zone Superintendents as a means to provide a more comprehensive description of the status of individual schools and the school system as a whole. By providing this information to the Boston School community, all members of the education community will be able to use this information to promote school improvement. The indicators were examined in clusters as well as individually both for changes during the past year and for trends during the past three years. Major findings are listed below.

Elementary School Level

- **School Holding Power/Climate**

Overall, elementary schools have greater holding power during the 1991-92 school year as indicated most strongly by increases in school choices and decreases in student suspensions.

- **Student Achievement**

Some improvements in student achievement were observed, particularly in the area of Mathematics achievement. Fewer students scored below average and more students scored above average in mathematics. For both Reading and Mathematics, at all grade levels the median percentiles were at or above the national average.

- **School Involvement Practices**

Efforts to involve Special Education students and Bilingual Education students more fully in the regular education classroom were observed in positive changes in Special Education prototypes and Bilingual Education Lau Step classifications.

Middle School Level

- **School Holding Power/Climate**

Across all five indicators, middle schools were shown to have greater holding power in SY1991-92 than in the previous school year. School Choice and dropouts were the indicators with the greatest change during this interval.

- **Student Achievement**

Changes in student achievement were somewhat uneven at the middle school level. Some improvements were found in mathematics achievement but generally there were small losses in reading achievement during this time period. In terms of the median percentiles, in Reading, each of the middle school grades was one or two percentile points below the national average and for Mathematics, each grade level was above the national average.

- **School Involvement Practices**

Generally the indicators show improvements in mainstreaming efforts at the middle school level. In particular, there was a large decrease in the number of new referrals to Special Education. However, among students already in Special Education, students were more likely to move into a more restrictive setting during SY1991-92 than in the previous year, SY1990-91.

High School Level

- **School Holding Power/Climate**

Evidence for increased holding power at the high school level was observed in the areas of decreased dropouts and increased school choice. Student suspensions were an area where improvement did not occur during the past year.

- **Student Achievement**

Except for the ninth grade in Reading and Mathematics, performance remained constant or improved. Relative to the national average, in both Reading and Mathematics the ninth grade is at or above the national average and the twelfth grade performance in Mathematics is above the national average.

- **School Involvement Practices**

High schools generally made considerable gains in increasing the involvement of Special Education and Bilingual Education students in mainstream settings. This was particularly evident in the Lau Step increases among Bilingual Education students.

Comparison with Other School Systems

- Using a report published by the Council of the Great City Schools, scores on the Metropolitan Achievement Test (MAT6) for SY1990-91 were compared to those from three other urban school systems which also use the MAT6. Boston students' performance was substantially better than that of two of the districts in both Reading and Mathematics. It was similar to the third district in Mathematics.

The data from the performance indicators indicate that the majority of the Boston Public Schools are making advances in core areas. The size of the changes may not always be large, and some areas such as reading achievement may need particular attention, but the pattern of positive change is consistent, especially at the elementary school level. While the changes observed in the past year are promising, it is important to continue observing changes over the coming years and to use the more detailed information available in this report to focus in on specific areas which may be in need of additional attention.

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Introduction

Introduction

No single indicator can give a complete picture of a school system, particularly one like Boston which enrolls nearly 60,000 students ranging in age from 3 to the early twenties, informs and involves over 100,000 parents, employs more than 5,000 professionals, and maintains a physical plant of over 125 buildings. In an effort to cope with the complexity of the school system, administrators and observers have tended to rely on one or two statistics at a time to describe the 'health' of the school system. These statistics have usually been annual dropout rates, Metropolitan Achievement Test scores, and/or promotion rates. While everyone realizes that a single number can be misleading, people have reported, commented on, and often acted (or reacted) based upon the value, high or low, of a single statistic. It is not that any of the single statistics is 'wrong', but rather that a single statistic is only one indicator of the complex functioning of the schools.

Over the past few years, there has been much work to develop a better way to describe the status of individual students, individual schools, and the entire school system. At the student level, this has involved work to develop and use ongoing assessment procedures and to provide more detailed information about performance on standardized tests such as the individual student report provided to teachers each fall. The ongoing assessment procedures are sometimes called 'performance assessment', 'writing folders', 'portfolio assessment', etc. Also, the format of the student report card has been modified for the early grade levels to provide parents with more information about their child's performance. At the school level, the Boston Compact Measurement Committee has been working with the Superintendent and the Zone Superintendents to identify a set of performance indicators and corresponding standards to use to assess schools. The work of the Boston Compact Measurement Committee has occurred in conjunction with certain provisions of the contract between the Boston Teachers Union (BTU) and the School Department which call for a yearly assessment of schools. Finally, at the system level, during the past year, the Superintendent has emphasized the yearly annual education plan process whereby schools have been called upon to formulate objectives, measures of success, and action plans in order bring about school improvement.

How is the Status of the Boston Public Schools Vis-À-Vis the Performance Indicators Reported?

This Performance Indicators' Systemwide Report is designed to provide information about the status of the system as a whole and to provide information about the various 'performance

Introduction

indicators' that have been identified for use in the assessment process. Thus, this report examines the status of the school system from two perspectives. The report begins with a section in which the performance indicators are combined according to three broad categories described below to produce an overall, or aggregate, view of the progress of the school system during the past year by school level, i.e., elementary, middle and high. The final three sections, one for each of the broad categories, examine the performance indicators in greater detail. In most cases, there is a two page summary for each indicator. The summary begins with a description of each indicator in terms of its definition, relevance, and manner in which it is calculated. Next, data for the past three school years are discussed and graphically represented by school level. Finally, to give a indication of the prevalence of change regarding the indicator, there is an analysis of the number of schools, by level, that have changed, positively or negatively, or stayed the same between SY1990-91 and SY1991-92.

While the bulk of this report is comprised of an indicator-by-indicator analysis, the reader is advised to keep in mind that the purpose of this report and indeed the purpose of identifying a set of performance indicators is to provide a means to obtain a fuller picture of the status of the school system. Also included in the area of student achievement are the median percentile test scores in Reading and Mathematics on the Metropolitan Achievement Test and a comparison of the standardized test scores with those of other urban school systems. Thus, in considering this wealth of data, the reader is urged to move back and forth between a focused examination of specific details to a more global look at the 'whole' picture.

What Is a Performance Indicator?

In September, 1992 each school received an 'End-of-Year Report' that provided approximately 200 different pieces of information about their school's functioning during the past three school years. Among the various data elements included in that report, nineteen performance indicators have been designated as the key indicators. These indicators were chosen for a variety of reasons including appropriateness, completeness, and availability. This Performance Indicators: Systemwide Report 1991-92 provides status information about these nineteen key indicators (listed in Table A). Each indicator is fully described in the 'Analysis of Indicators' section of this report. (As a supplement to these nineteen indicators, schools received supporting data from fifteen additional indicators. These supporting indicators are listed in Appendix A, Table 1. The data for these supporting indicators are not presented in this report, but they were used at the local school level to determine specific areas on which to focus in the

Introduction

educational planning process. Appendix A also contains a methodology section which discusses technical issues related to the various indicators and the analyses used in this report.)

The performance indicators are simply numbers. As numbers, the indicators are designed to provide a snapshot of small facets of this intricate, ever changing entity known as a school. Thus, the indicators should be viewed as signs or pointers about the successes, failures, and current status of individual schools and the school system as a whole. As numbers, the indicators should not be mistaken for the school itself. Finally, as numbers, the indicators should not be mistaken for the students, parents, teachers, school administrators and other members of the school community that have been involved in the complex activity known as education. Yet, as signs and pointers, the performance indicators are meaningful. Individually, performance indicators are starting points, not ending points in the process of understanding an individual school or the system as a whole. Taken together and combined with other information one has about a school, the performance indicators are the vital signs about a school's functioning which can be checked on a yearly basis to be sure that all is well with the school. Taken together, if the indicators highlight potential problem areas, more information will need to be obtained. Depending on the information obtained, the school may be in need of additional support or intervention. Procedures for this follow-up process have been detailed in a Superintendent's Circular (#24, 1992-93).

Where Do the Performance Indicators Data Come From?

Over the past sixteen years or so the Boston Public Schools, through the Office of Information Systems, has developed a comprehensive computerized central record keeping system. The information contained in this computer system comes from many different sources, and there are guidelines set up to ensure the integrity, accuracy, and confidentiality of the information. The data for the school performance indicators come from the schools, the Department of Implementation, the Department of Testing, the Special Education Compliance Unit, the Bilingual Education Lau Unit and the Department of Safety Services.

Introduction

Table A
Key School Performance Indicators

School Holding Power/Climate

1. Daily Student Attendance
2. Suspension Occurrences
3. Pupils Suspended
4. Staff Attendance
5. School Choice
6. Dropouts

Student Achievement

1. Promotions
2. Metropolitan Achievement Test of Reading: Below Average Performance
3. Metropolitan Achievement Test of Mathematics: Below Average Performance
4. Metropolitan Achievement Test of Reading: Average Performance
5. Metropolitan Achievement Test of Mathematics: Average Performance
6. Metropolitan Achievement Test of Reading: Above Average Performance
7. Metropolitan Achievement Test of Mathematics: Above Average Performance

School Involvement Practices

1. Special Education Prototype Increase
2. Special Education Prototype Decrease
3. Special Education New Referrals
4. Bilingual Education Step Increase
5. MAT6 Reading - Students Taking the Test
6. MAT6 Mathematics - Students Taking the Test

Introduction

How Can the Performance Indicators Be Combined?

There are many potential ways to group the performance indicators. For purposes of discussion in this report, the indicators have been grouped into the three broad categories listed below. These three categories are somewhat separate, yet they are interrelated. There is no simple direct cause and effect relationship among the categories.

School Holding Power/Climate

This category refers to the holding and drawing power of a school. Indicators included in this category are: student attendance, staff attendance, student suspensions, parent choice of the school during the student assignment process, and dropouts.

Student Achievement

This category refers to the ways that students demonstrate that they have mastered the curriculum. Included in this category are the grade promotion indicator and the Metropolitan Achievement Test indicators.

School Involvement Practices

This category refers to the implementation of various policies and procedures that affect students' involvement in the mainstream activities of the school. The indicators that are included in this category are those that provide information about the degree to which Special Education and Bilingual Education students are participating in the regular education setting, and the emphasis that the school places on ensuring that all eligible students take the yearly Metropolitan Achievement tests.

Introduction

Systemwide Aggregate Summary

Systemwide Aggregate Summary

Overview

This chapter summarizes the changes which have occurred at each school level, elementary, middle, and high, during the past school year. Changes in the areas of School Holding Power/Climate, Student Achievement, and School Involvement Practices are examined.

Procedures

Within each broad category, i.e., School Holding Power/Climate, Student Achievement, and School Involvement Practices, the individual indicators can be combined both by looking for changes over time and by looking for patterns among the set of indicators. The graph in Figure #1 shows changes in the School Holding Power/Climate indicators for Elementary Schools between SY1990-91 and SY1991-92. Bars that extend to the right of the 0% vertical line in the graph represent improvements in an indicator during this time span. Bars that extend to the left of the 0% line indicate a decline in an indicator during this time span. The longer the bar, the greater the amount of change.

The remainder of this chapter examines the pattern of changes that have occurred during the past year for each school level. The graphs are based upon comparison of summary statistics for each performance indicator, either means or total counts, between SY1990-91 and SY1991-92. To quantify the amount of change between SY1990-91 and SY1991-92, the difference between the two years was calculated and then divided by the value for the 'base' year, i.e. SY1990-91. This result was then converted into a percentage. A positive percentage indicates an improvement in the status of the performance indicator. A negative percentage indicates a decline in the status of the performance indicator. These procedures are described in greater detail in the 'Technical Issues' section of Appendix A.

Systemwide Aggregate Summary

Elementary School Level Performance Indicators: Aggregate Changes During SY1991-92

At the Elementary School Level, the performance indicators suggest that, overall, schools became more desirable during SY1991-92 and that there were changes in School Involvement Practices which resulted in greater involvement in the school community among students. Small improvements were also observed in Student Achievement. This information is represented graphically in Figure #1 and numerically in Table #1. Thus overall, the Elementary Schools have demonstrated consistent evidence of school improvement during the past school year.

Table #1
Elementary School Level
Aggregate Change Between SY1990-91 and SY1991-92

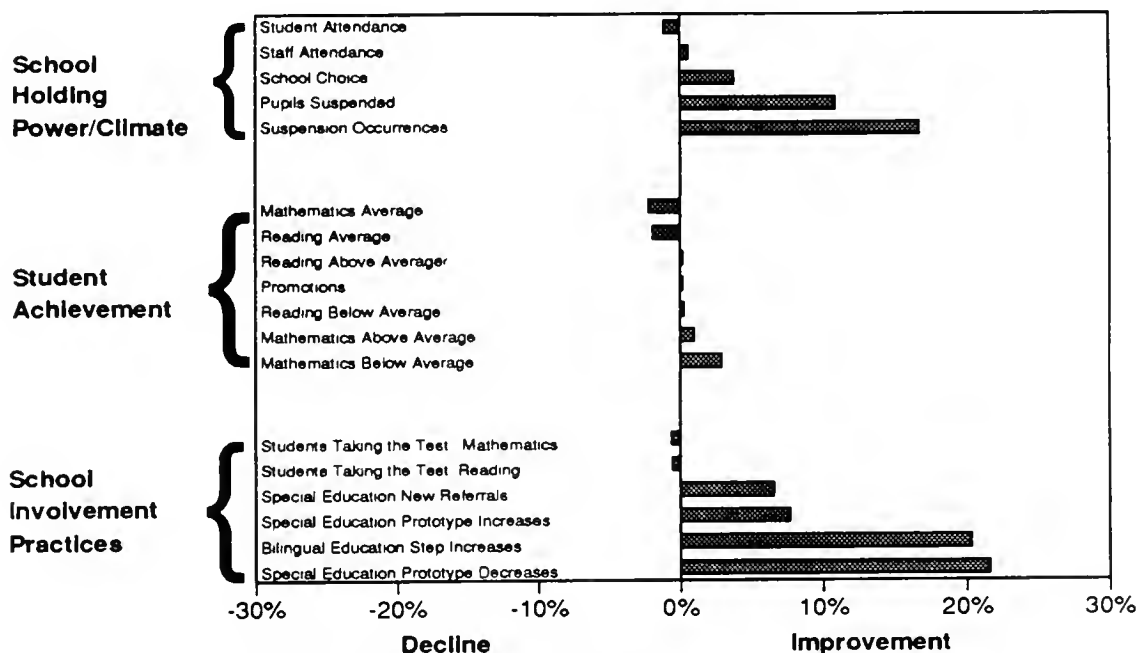
	Change Rate	Type
School Holding Power/Climate		
1. Daily Student Attendance	-1.1%	decline
2. Suspension Occurrences	16.7% *	improvement
3. Pupils Suspended	10.9% *	improvement
4. Staff Attendance	0.6%	improvement
5. School Choice	3.8%	improvement
6. Dropouts	NA	
Student Achievement		
1. Promotions	0.2%	improvement
2. MAT6 Reading Below Average Performance	0.3% *	improvement
3. MAT6 Mathematics Below Average Performance	2.9% *	improvement
4. MAT6 Reading Average Performance	-1.9%	decline
5. MAT6 Mathematics Average Performance	-2.2%	decline
6. MAT6 Reading Above Average Performance	0.2%	improvement
7. MAT6 Mathematics Above Average Performance	1.0%	improvement
School Involvement Practices		
1. Special Education Prototype Increase	7.7% *	improvement
2. Special Education Prototype Decrease	21.6%	improvement
3. Special Education New Referrals	6.6% *	improvement
4. Bilingual Education Step Increase	20.3%	improvement
5. MAT6 Reading - Students Taking the Test	-0.5%	decline
6. MAT6 Mathematics - Students Taking the Test	-0.6%	decline

* As noted in the procedures section and Appendix A, for comparison purposes, these indicators have been converted so that improvements are shown as positive percentages. See Appendix A for an example.

Systemwide Aggregate Summary

Figure 1

Boston Public Schools Elementary School Performance Indicators: Changes Over the Past Year



(Note: The indicators are listed in order of magnitude.)

School Holding Power/Climate

Of the five indicators considered, improvement could be seen in four of them. The largest improvements were observed in Pupils Suspended and Suspension Occurrences

Student Achievement

Some improvements were observed in five of the seven areas. The percentage of students in the average range in both Reading and Mathematics declined slightly. However, it is important to note that at all grade levels in both Reading and Mathematics, the median percentiles for all grades are above the average range.

School Involvement Practices

Improvements were observed in moving both Special Education and Bilingual Education students more into the mainstream.

Systemwide Aggregate Summary

Middle School Level Performance Indicators: Aggregate Changes During SY1991-92

Among BPS Middle Schools, the performance indicators for School Holding Power/Climate suggest that the schools have become more desirable. This information is represented graphically in Figure #2 and numerically in Table #2. In the areas of School Involvement Practices and Student Achievement, there is evidence of improvement in both areas. However, since the status of some performance indicators declined, the data also suggest that improvement has been somewhat uneven in these two areas.

Table #2
Middle School Level
Aggregate Change Between SY1990-91 and SY1991-92

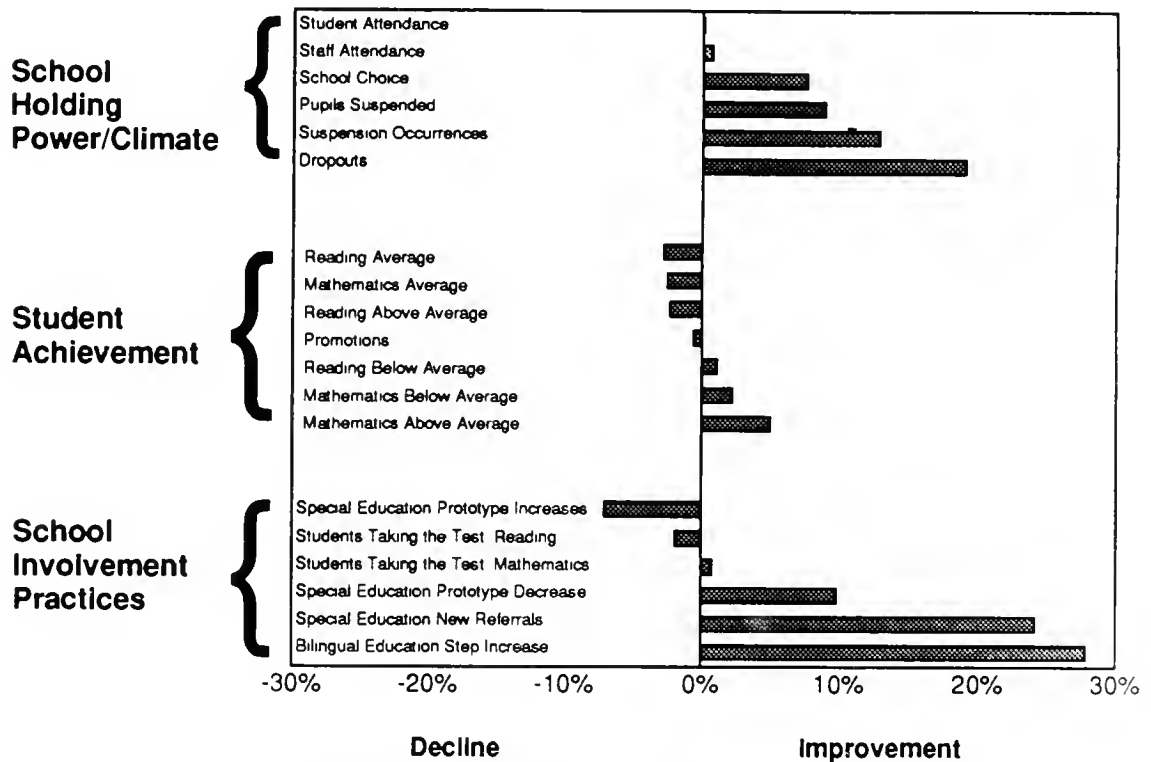
	Change	
	Rate	Type
School Holding Power/Climate		
1. Daily Student Attendance	0.1%	improvement
2. Suspension Occurrences	12.8%	improvement
3. Pupils Suspended	8.9% *	improvement
4. Staff Attendance	0.7% *	improvement
5. School Choice	7.6%	improvement
6. Dropouts	19.0% *	improvement
Student Achievement		
1. Promotions	-0.6%	decline
2. MAT6 Reading Below Average Performance	1.1% *	improvement
3. MAT6 Mathematics Below Average Performance	2.2% *	improvement
4. MAT6 Reading Average Performance	-2.8%	decline
5. MAT6 Mathematics Average Performance	-2.5%	decline
6. MAT6 Reading Above Average Performance	-2.3%	decline
7. MAT6 Mathematics Above Average Performance	5.0%	improvement
School Involvement Practices		
1. Special Education Prototype Increase	-7.1% *	decline
2. Special Education Prototype Decrease	9.8%	improvement
3. Special Education New Referrals	24.1%	improvement
4. Bilingual Education Step Increase	27.8% *	improvement
5. MAT6 Reading - Students Taking the Test	-1.9%	decline
6. MAT6 Mathematics - Students Taking the Test	0.8%	improvement

* As noted in the procedures section and Appendix A, for comparison purposes, these indicators have been converted so that improvements are shown as positive percentages. See Appendix A for an example.

Systemwide Aggregate Summary

Figure 2

Boston Public Schools Middle School Performance Indicators: Changes Over the Past Year



(Note: The indicators are listed in order of magnitude.)

School Holding Power/Climate

Improvements were observed for all six indicators with the largest improvements in the areas of Dropouts and Suspension Occurrences.

Student Achievement

Some improvements were observed in Mathematics achievement but there were also some declines in Reading Achievement and Promotions. However, it is important to note that for all grades the median percentiles for Mathematics are above the national average and for Reading only slightly below the national average.

School Involvement Practices

Improvements were observed in four of the six indicators considered, with the largest improvement occurring in the Bilingual Education Step Increases, which means that these students are spending more time in the regular education settings. New referrals to Special Education also decreased. Changes in Special Education Prototype placements were mixed.

Systemwide Aggregate Summary

High School Level Performance Indicators: Aggregate Changes During SY1991-92

At the High School level, the performance indicators suggest that improvements have occurred in each of the three categories, with some improvements being quite substantial. However, within both the School Holding Power/Climate and Student Achievement categories, there are more indicators that show decline than show improvement. The School Involvement Practices category is also mixed in terms of improvement and decline. This information is represented graphically in Figure #3 and numerically in Table #3. Overall, improvement at the High School level appears to be occurring somewhat unevenly.

Table #3
High School Level
Aggregate Change Between SY1990-91 and SY1991-92

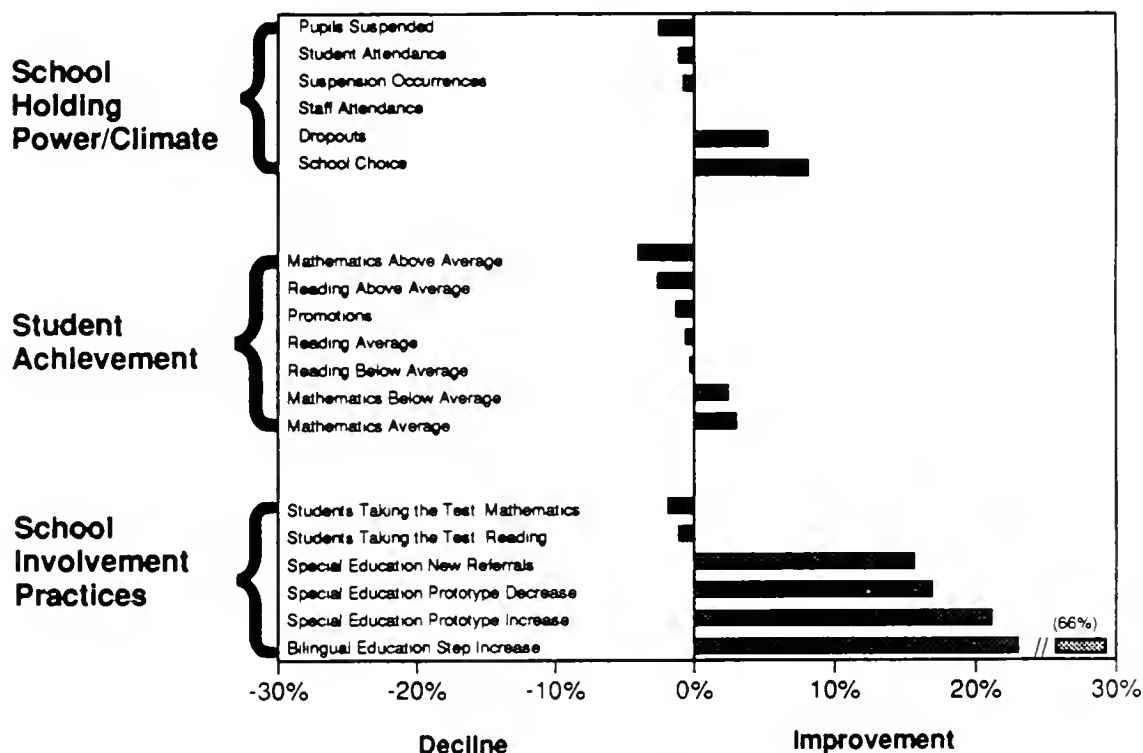
	Change	
	Rate	Type
School Holding Power/Climate		
1. Daily Student Attendance	-1.1%	decline
2. Suspension Occurrences	-0.8% *	decline
3. Pupils Suspended	-2.5% *	decline
4. Staff Attendance	0.0%	improvement
5. School Choice	8.1%	improvement
6. Dropouts	5.2% *	improvement
Student Achievement		
1. Promotions	-1.3%	decline
2. MAT6 Reading Below Average Performance	-0.3% *	decline
3. MAT6 Mathematics Below Average Performance	2.4% *	improvement
4. MAT6 Reading Average Performance	-0.6%	decline
5. MAT6 Mathematics Average Performance	3.0%	improvement
6. MAT6 Reading Above Average Performance	-2.6%	decline
7. MAT6 Mathematics Above Average Performance	-4.0%	decline
School Involvement Practices		
1. Special Education Prototype Increase	21.1% *	improvement
2. Special Education Prototype Decrease	16.9%	improvement
3. Special Education New Referrals	15.6% *	improvement
4. Bilingual Education Step Increase	66.2%	improvement
5. MAT6 Reading - Students Taking the Test	-1.1%	decline
6. MAT6 Mathematics - Students Taking the Test	-1.9%	decline

* As noted in the procedures section and Appendix A, for comparison purposes, these indicators have been converted so that improvements are shown as positive percentages. See Appendix A for an example.

Systemwide Aggregate Summary

Figure 3

Boston Public Schools High School Performance Indicators: Changes Over the Past Year



School Holding Power/Climate

Improvements were observed in two of the six indicators considered. These improvements were in the increased number of School Choices made and in the reduction in the annual Dropout rate.

Student Achievement

Improvements were observed in two of the seven indicators considered. Some improvement was observed in Mathematics achievement in terms of the percentages of students scoring below average. There were, however, declines in the percentages of students scoring above average in Reading and Mathematics.

School Involvement Practices

Improvements were observed in four of the six indicators considered. In particular large improvements were noted in greater percentages of Special Education and Bilingual Education students spending more time in regular education settings.

Systemwide Aggregate Summary

Has the System Improved Between SY1990-91 and SY1991-92?

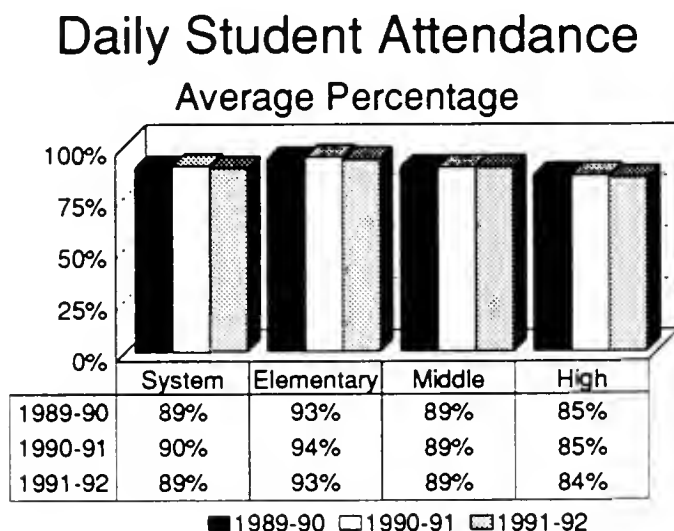
At all three school levels, there is considerable and generally consistent evidence that schools have improved both in terms of School Holding Power/Climate and School Involvement Practices which promote student involvement in the mainstream. There is also some evidence of improvement in Student Achievement, but changes in this category were generally smaller than changes in the other two categories. The next section of this report examines the changes for each indicator in greater detail.

School Holding Power/ Climate

Daily Student Attendance

Description: Student attendance is an indicator of student exposure to school instruction. High student attendance is an obvious basic requirement underlying school effectiveness. The student attendance is a percentage calculated as the average daily attendance divided by the average daily membership based on data provided by each school to the Records Management Unit. The percentage is computed only from the particular grades in each school, excluding kindergarten.

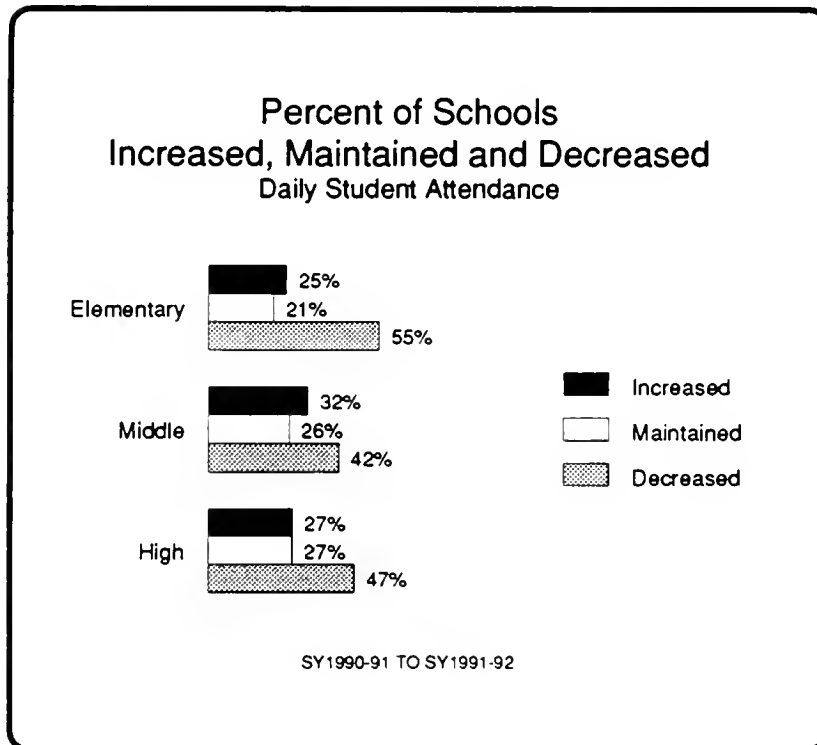
Historical Perspective: During the past three years the systemwide average daily attendance (grades 1 to 12) has remained relatively stable at around 89%. At the elementary and middle school levels the rate has remained fairly even around 93% and 89% respectively. At the high school level average daily attendance declined one point this past year.



Daily Student Attendance

Change Between SY1990-91 and SY1991-92: Between one quarter and one third of the

schools improved their Average Daily Student Attendance. The most improvement occurred among middle schools. Approximately one quarter of the schools maintained their previous year's attendance level. It should be noted that during SY1991-92 there was a four and a half week bus strike which affected the attendance rate.



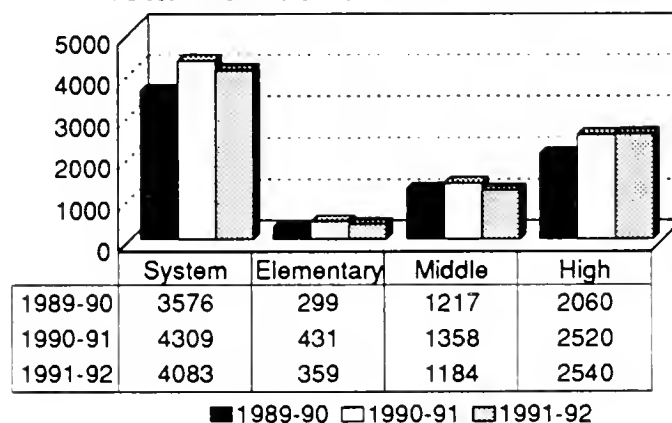
Suspension Occurrences

Description: The total number of suspension occurrences indicates a problem which has an impact on the total school climate and atmosphere. This number reflects the total number of times that suspensions are recorded during the school year; students are counted each time they are suspended. Data reflect suspension activity at the school during the year even if a student transfers to another school before the end of the year (so a student may be counted at more than one school).

Historical Perspective: Systemwide, during the past three years, the total number of suspension occurrences declined 5% from this past year following an increase from SY1989-90. This pattern was reflected at the elementary school level. At the middle school level the number has decreased 3% from 1217 to 1184 over the past three years.

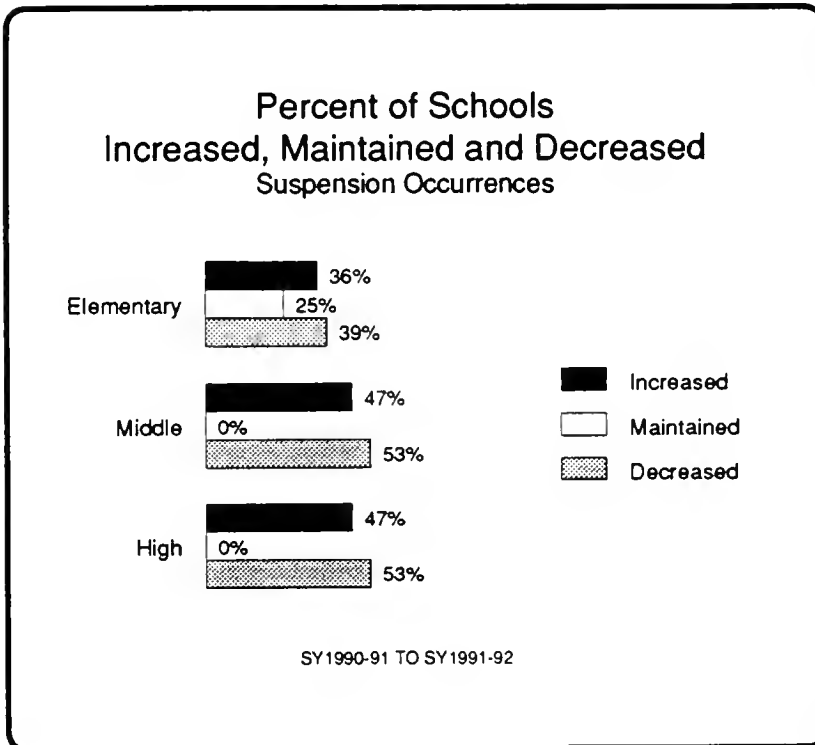
At the high school level the number of suspension occurrences increased slightly (1%) from the past year.

Suspension Occurrences
Total Number of Occurrences



Suspension Occurrences

Change Between SY1990-91 and SY1991-92: Slightly over half of the middle and high



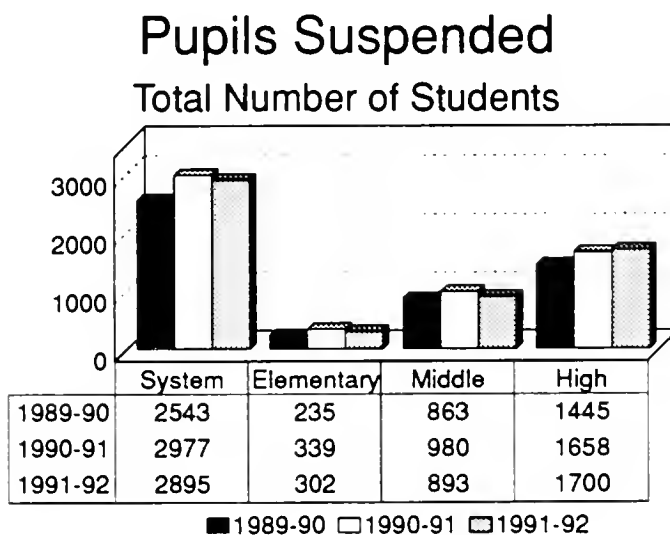
schools improved by showing decreases in the number of suspension occurrences between SY1990-91 and SY1991-92. Almost 40% of the elementary schools also had improvements (decreases). One quarter of the elementary schools maintained the same number of suspension occurrences, in large part because a number of elementary schools suspended no students at all in either year. It should be noted that

at the elementary level the number are small, so the percentage of change should be interpreted cautiously.

Pupil Suspensions

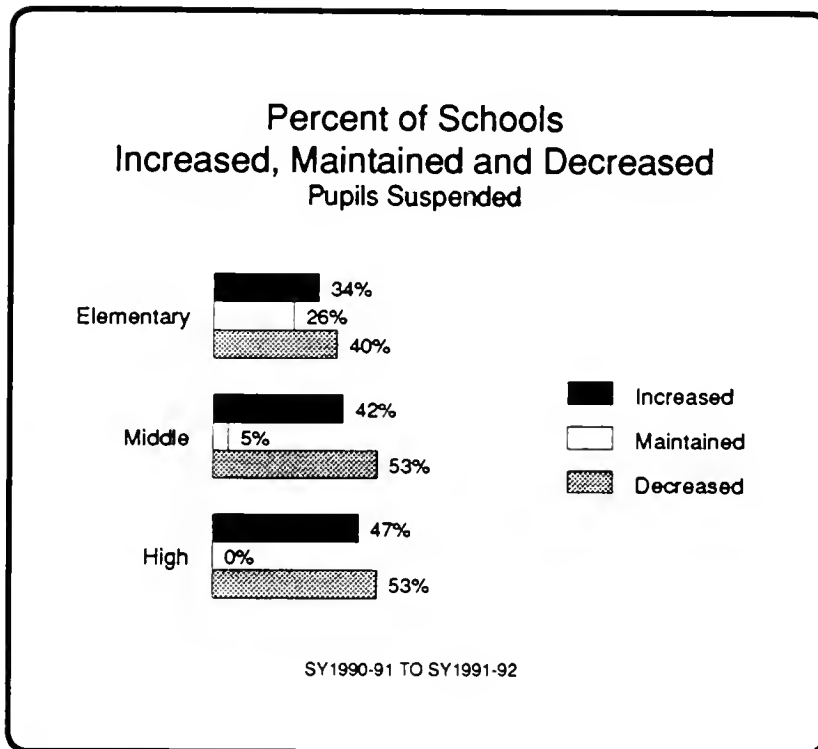
Description: The total number of suspension occurrences indicates a problem which has an impact on the total school climate and atmosphere. If a school has many more suspension occurrences than suspended pupils, it means that a few students are being suspended repeatedly. Data reflect suspension activity at the school during the year even if a student transfers to another school before the end of the year (so a student may be counted at more than one school).

Historical Perspective: Systemwide, during the past three years, the total number of pupils suspended declined 3% from this past year following an increase from SY1989-90. This pattern was reflected at the elementary and middle school levels. At the high school level, the number of pupils suspended increased slightly (3%) from the past year.



Pupil Suspensions

Change Between SY1990-91 and SY1991-92: Over half of the middle and high schools had



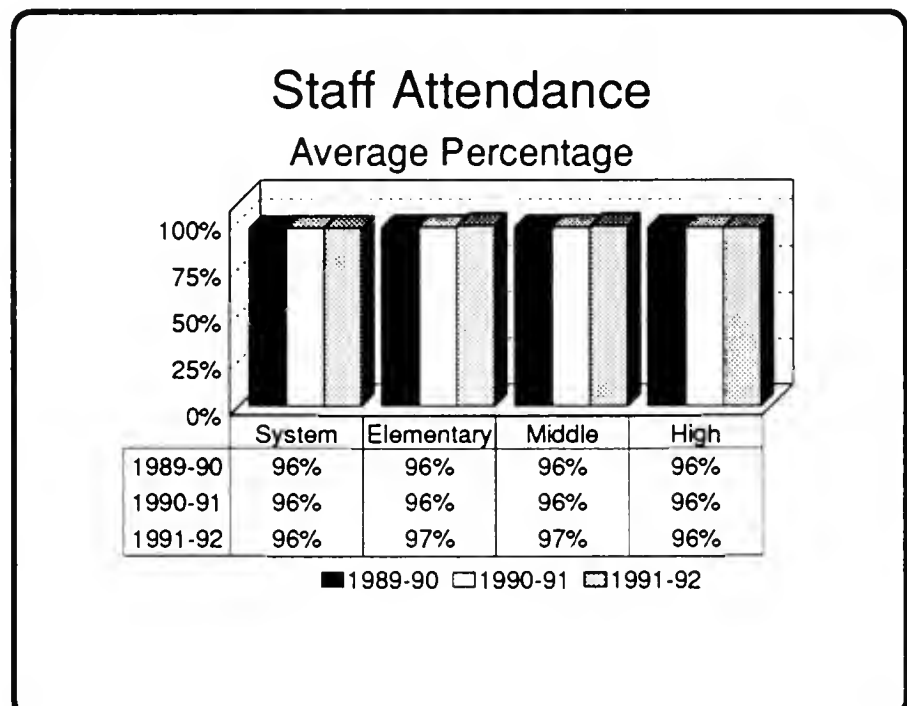
improvements (decreases) in the number of pupils suspended between SY1990-91 and SY1991-92. At all three levels, schools with decreases outnumbered schools with increases. One quarter of the elementary schools maintained the same number of pupils suspended, in large part because a number of elementary schools suspended no students at all in either year. It should be noted that for many elementary schools, the number

of pupils suspended is very small and, thus, should be interpreted with caution.

Staff Attendance

Description: While absences due to illness are inevitable, high staff attendance is a prerequisite for high standards in the delivery of school services. "Staff" includes administrators, teachers, and professional support staff, but does not include other support staff. Days absent include only sick days. Attendance at approved educational conferences, personal days, and approved leaves are excluded. Staff attendance is calculated as the total number of staff days present divided by the total number of staff days possible.

Historical Perspective: Systemwide, the percent average daily staff attendance during the past three years has remained high at 96%. At the elementary and middle school levels the average daily staff attendance has risen slightly from 96% in SY1989-90 to 97% for SY1991-92. At the high school level the average daily staff attendance has remained constant at 96%.

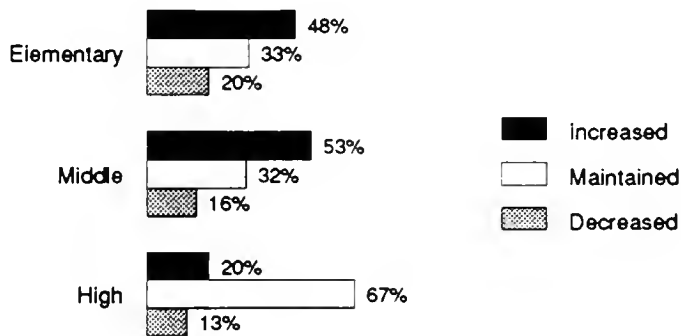


Staff Attendance

Change Between SY1990-91 and SY1991-92: Approximately half of the elementary and

middle schools showed increases in staff attendance between SY1990-91 and SY1991-92. The majority of the high schools maintained the same level of staff attendance in both years.

**Percentage of Schools
Increased, Maintained and Decreased
Staff Attendance**

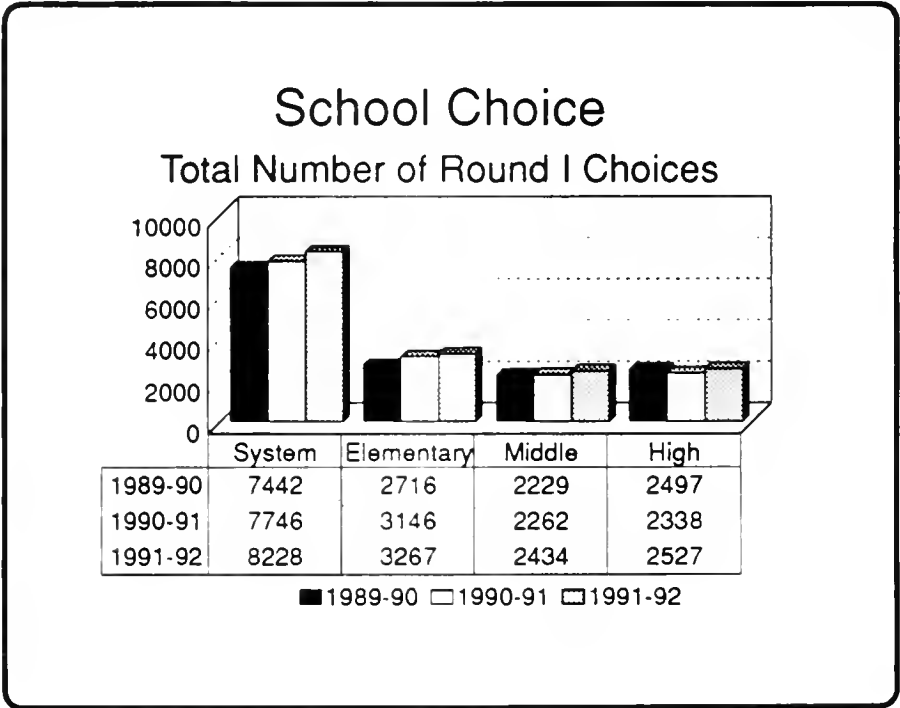


SY1990-91 TO SY1991-92

School Choice

Description: The number of students requesting a school as a first choice is the number of regular education students in grades 1, 6, and 9 who requested the school as their top choice in the first round of the student assignment process. It is an indicator of how desirable the school is seen as being. In the case of first grade, parents whose child had a guaranteed seat and therefore did not make a choice are not included in the counts. Regular education students only were included in these analyses, since the choices of other students (such as Bilingual or Special Needs) are more constrained by the availability of specific programs.

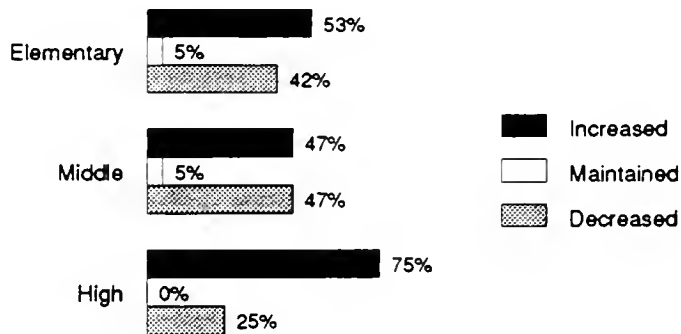
Historical Perspective: Systemwide, the number of first choices has increased 11%. This increase over the past three years is reflected at all three levels with a 20% increase at the elementary school level, a 9% at the middle school level and 1% increase at the high school level.



School Choice

Change Between SY1990-91 and SY1991-92: Three quarters of the high schools and approxi-

**Percentage of Schools
Increased, Maintained and Decreased
School Choice**



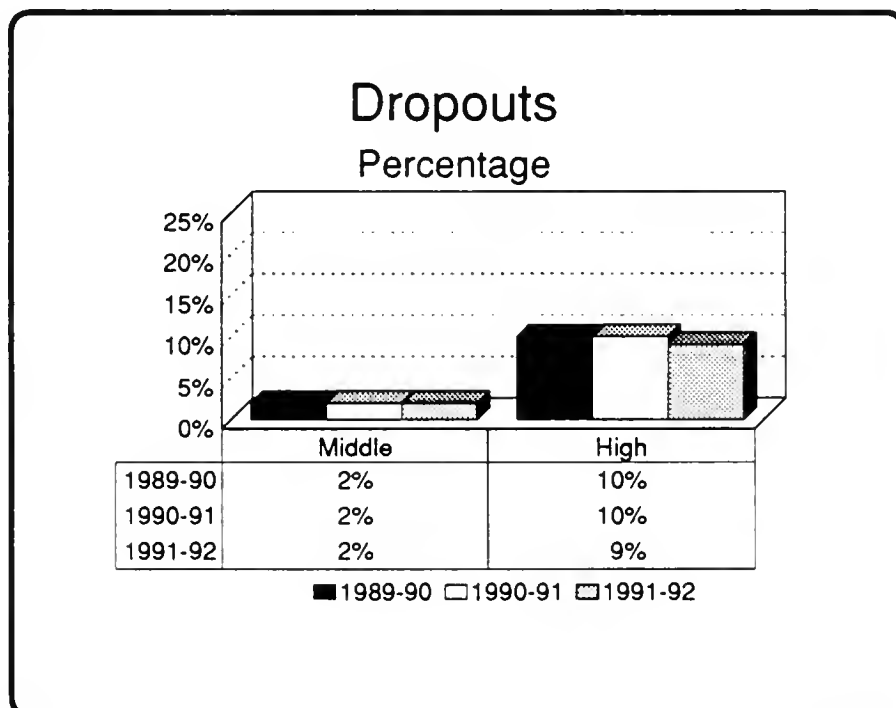
SY1990-91 TO SY1991-92

mately half of the elementary and middle schools showed increases in the number of times they were given as "first choice" during Round I of the student assignment process. Regular education students only were included in these analyses, since the choices of other students are more constrained by the availability of specific programs.

Dropouts

Description: The dropout rate is generally regarded as one index of a school's holding power. According to new state guidelines, students in grades 6-12 are counted as dropouts if they leave school during the year from July 1 to June 30 for any reason other than transfer, graduation, death, or expulsion with an option to return, regardless of whether or not they are 16 years old. For these analyses, dropout data from the years before 1991-1992 have been re-analyzed to conform to new state guidelines and provide a consistent basis for comparison across time. This indicator applies primarily to high schools.

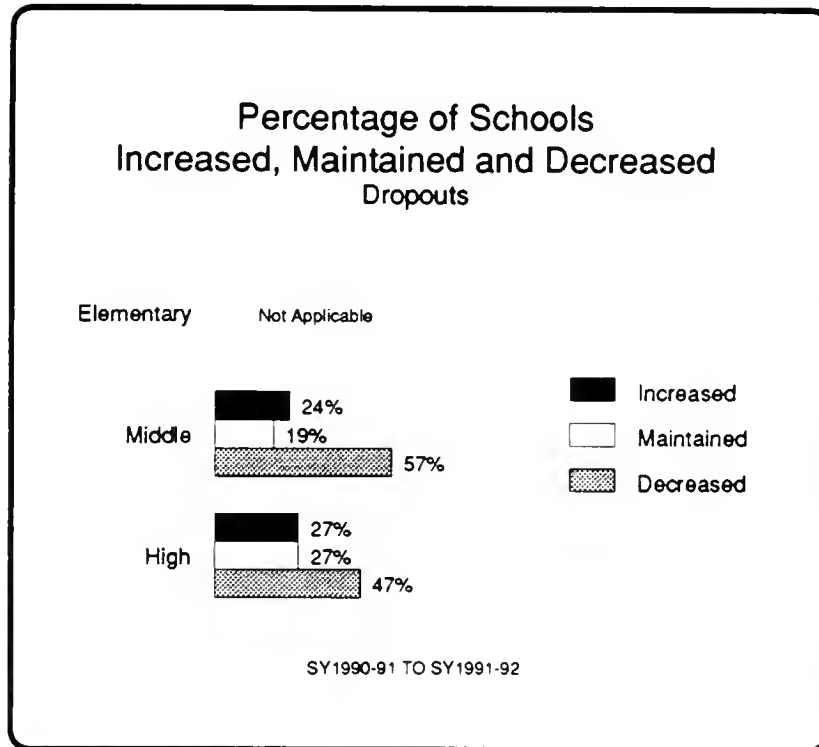
Historical Perspective: During the past three years, the annual dropout rate for high school, recalculated to conform to the new state guidelines, has declined from 10% to 9%. At the middle school level, the dropout rate has remained constant at 2%.



Dropouts

Change Between SY1990-91 and SY1991-92: Over half of the middle schools and almost half

of the high schools had decreases in their dropout rate between SY1990-91 and SY1991-92. (Note: For purposes of this analysis, the Tobin and Hernandez elementary schools, 6th-8th graders only, were included among the middle schools).

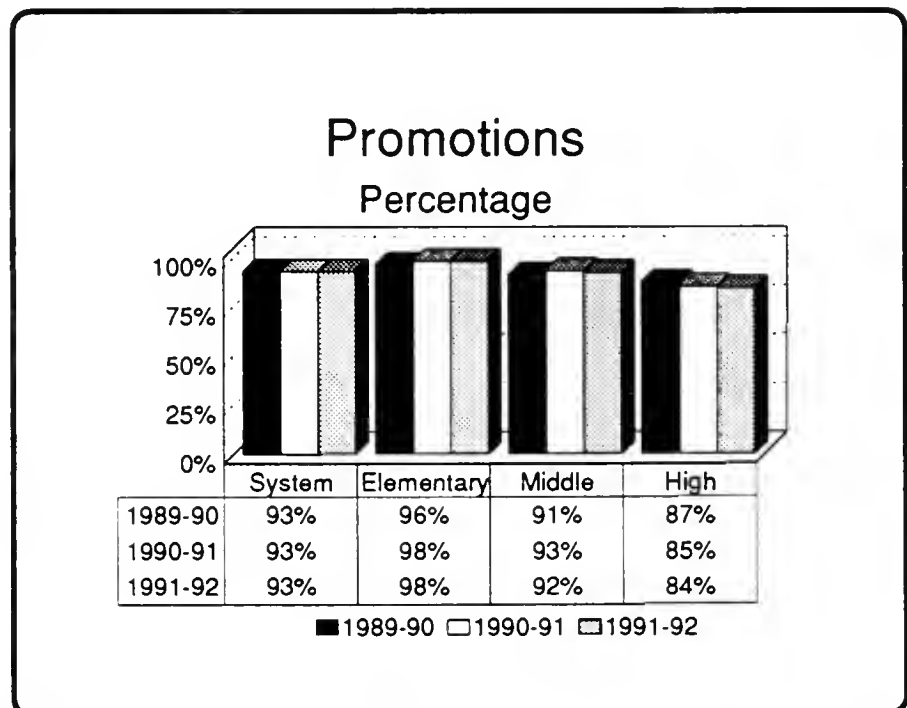


Student Achievement

Promotions

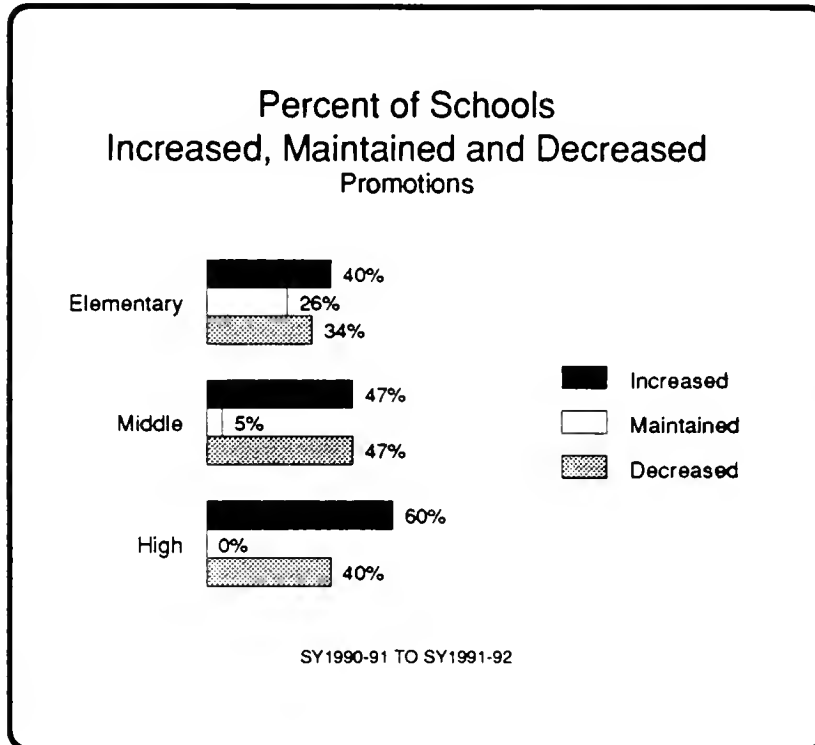
Descriptions: Promotion represents an achievement both for students and for their school. The promotion rate used in these analyses is intended to reflect achievement during the school year; therefore, it is calculated as the percentage of students promoted to the next grade as of June. It does not include those students who are promoted during summer.

Historical Perspective: During the past three years, the systemwide promotion rate has remained stable at 93%. The already high promotion rates at the elementary and middle school levels showed increases between SY1989-90 and SY1991-92 of 2% and 1% respectively.



Promotions

Change Between SY1990-91 and SY1991-92: Increases in the promotion rate were seen at all levels, 40%, 47%, and 60% at the elementary, middle, and high school levels. It should be noted



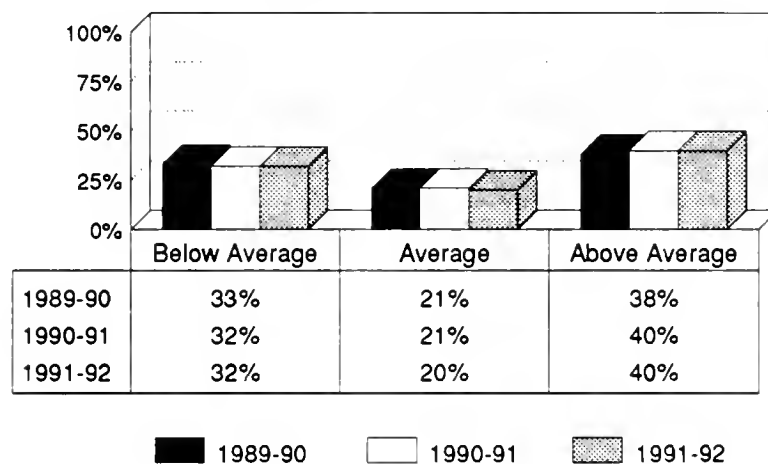
that 26% of the elementary schools "maintained" the promotion rate which often means that the school sustained a promotion rate that was already quite high. Among middle schools, the number of schools increasing matched the number of schools decreasing in promotion rate, while at the high school and elementary levels the number of schools with increases was greater than the number with decreases.

Metropolitan Achievement Test Reading Elementary School Level: Score Ranges

Description: Students who score below average (under the 40th percentile compared with national norms) may be at risk of failure in reading. Average scores (40th to 60th percentile) are predictive of satisfactory performance in school subjects which rely on reading skills. Students who score above average (over the 60th percentile) are likely to be able to achieve at a high level. In all analyses of MAT6 scores, the percentages are based on the total number of eligible students, not solely those who took the test. The eligible population includes the following students: Regular education, Special Needs in .1 and .2 prototypes, and Bilingual Education in Lau Steps 4 and 5. In addition to the eligible population, schools are encouraged to include all students in Bilingual Education Steps 2 and 3 and Special Education Prototypes .3 and .4 who are able to take the test.

Historical Perspective: Systemwide, during the past three years, the percentage of eligible elementary students scoring at each of the three levels of proficiency on the Metropolitan Achievement Test in reading has remained nearly constant. The percentage scoring below average has been 7 to 8 percentage points less than in the national norming sample (40%).

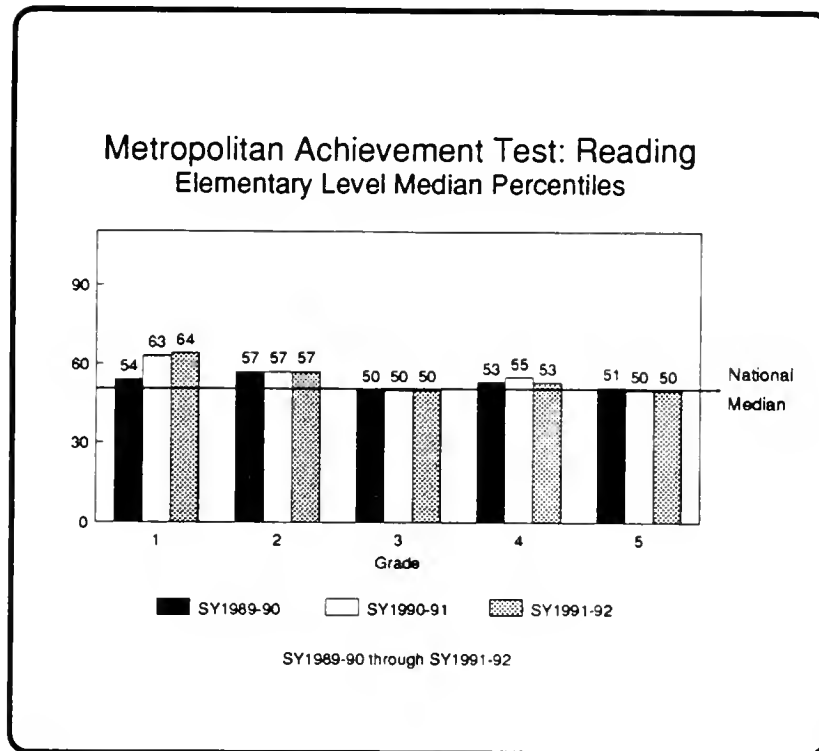
MAT6 Reading Elementary School Level
Percentage of Eligible Students



Metropolitan Achievement Test Reading Elementary School Level: Score Ranges

Median Percentile Between SY1989-90 and SY1991-92: During the past three years, the me-

dian percentile at each elementary grade has remained relatively stable, at or above national median on the MAT6 reading test. First grade students have improved 10 percentile points since SY1989-90.

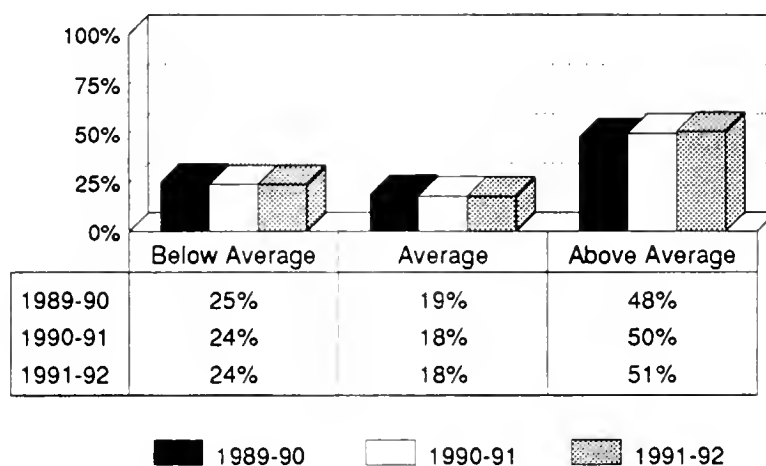


Metropolitan Achievement Test Mathematics Elementary School Level: Score Ranges

Description: Students who score below average (under the 40th percentile compared with national norms) may be at risk of failure in mathematics. Average scores (40th to 60th percentile) are predictive of satisfactory performance in mathematics. Students who score above average (over the 60th percentile) are likely to be able to achieve at a high level. In all analyses of MAT6 scores, the percentages are based on the total number of eligible students, not solely those who took the test. The eligible population includes the following students: Regular education, Special Needs in .1 and .2 prototypes, and Bilingual Education in Lau Steps 4 and 5. In addition to the eligible population, schools are encouraged to include all students in Bilingual Education Steps 2 and 3 and Special Education Prototypes .3 and .4 who are able to take the test..

Historical Perspective: Systemwide, during the past three years, the percentage of eligible students scoring above average on the Metropolitan Achievement Test in Mathematics has steadily increased from 48% in SY1989-90 to 51% in SY1991-92. This most recent percentage is 11 points higher than the national norming sample in the above average range and 16 points lower than the national sample for the below average range.

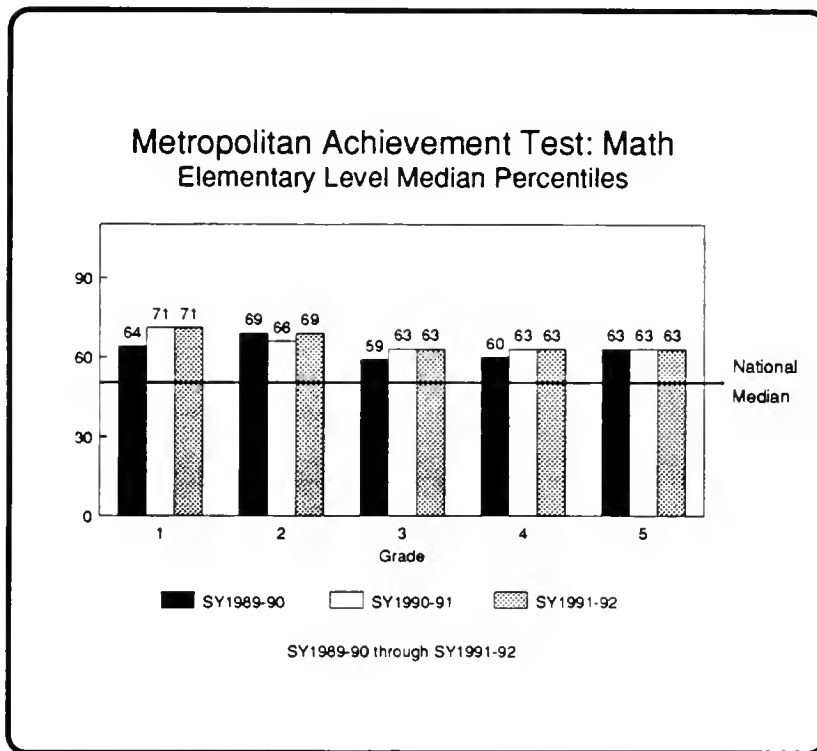
MAT6 Mathematics Elementary School Level
Percentage of Eligible Students



Metropolitan Achievement Test Mathematics Elementary School Level: Score Ranges

Median Percentile Between SY1989-90 and SY1991-92: Overall, during the past three years,

the median percentile at each elementary grade has been well above the national average. Each grade level has exceeded the national median by 9 to 21 percentile points on the mathematics test.

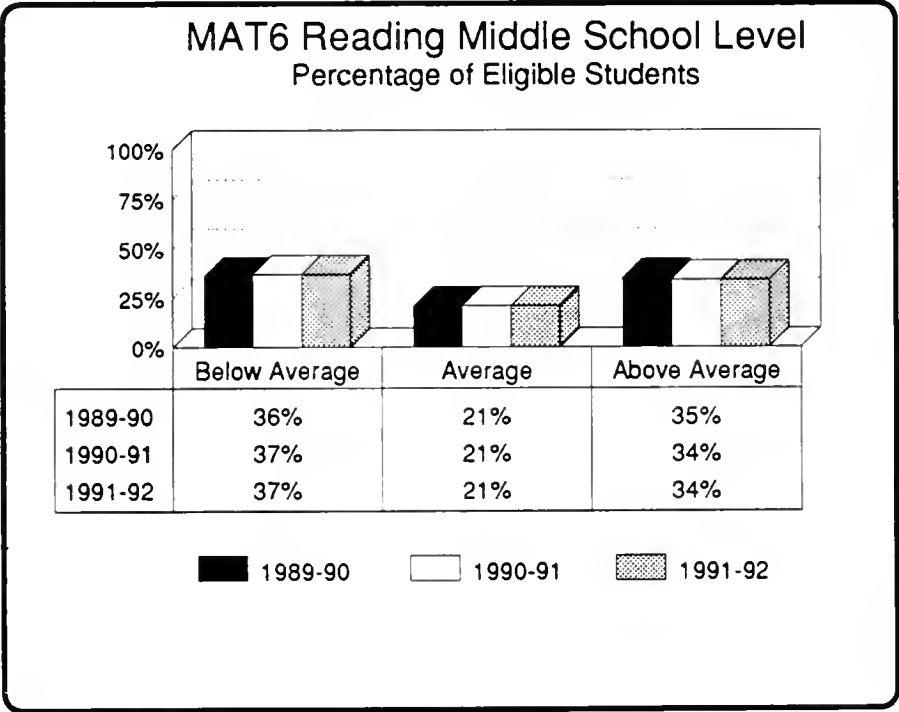


Metropolitan Achievement Test Reading

Middle School Level: Score Ranges

Description: Students who score below average (under the 40th percentile compared with national norms) may be at risk of failure in reading. Average scores (40th to 60th percentile) are predictive of satisfactory performance in reading. Students who score above average (over the 60th percentile) are likely to be able to achieve at a high level. In all analyses of MAT6 scores, the percentages are based on the total number of eligible students, not solely those who took the test. The eligible population includes the following students: Regular education, Special Needs in .1 and .2 prototypes, and Bilingual Education in Lau Steps 4 and 5. In addition to the eligible population, schools are encouraged to include all students in Bilingual Education Steps 2 and 3 and Special Education Prototypes .3 and .4 who are able to take the test..

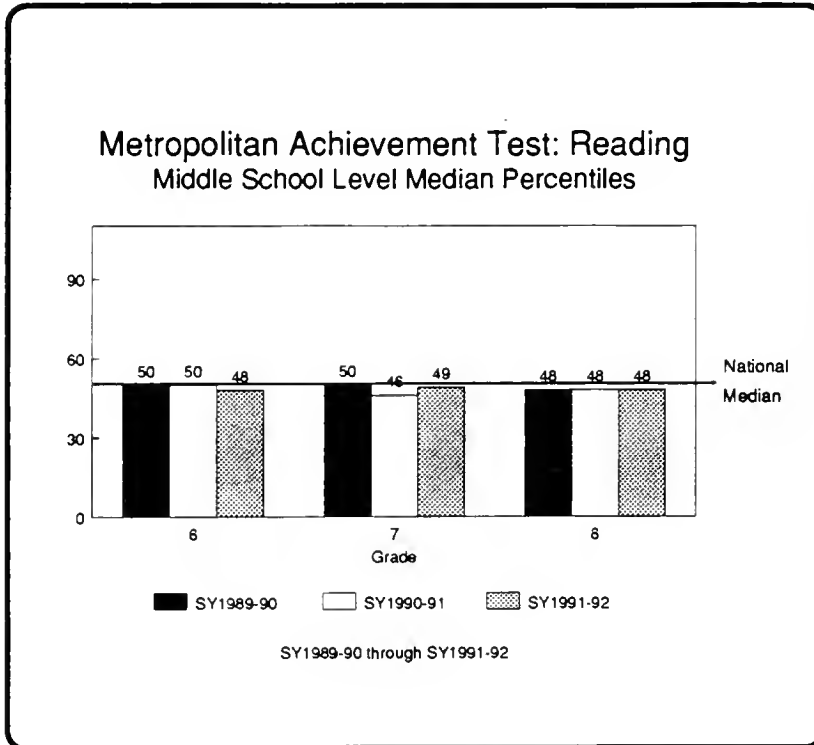
Historical Perspective: Systemwide, during the past three years, the percentage of eligible middle school students scoring at each of the three levels of proficiency on the Metropolitan Achievement Test in reading has remained essentially constant. The percentage of students scoring in the below average and average score ranges is close to the national norming sample.



Metropolitan Achievement Test Reading Middle School Level: Score Ranges

Median Percentile Between SY1989-90 and SY1991-92: At the middle school level, the

reading median percentile at each grade level has remained fairly close to the national average during this period. At each grade the median percentile was only one to two percentile points below the national average for this past year.

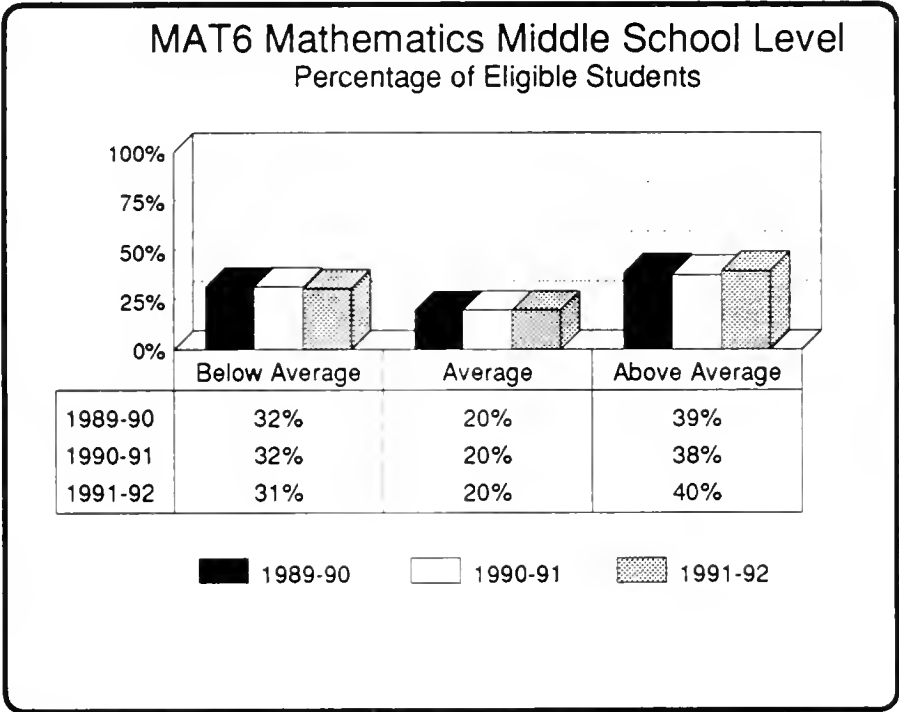


Metropolitan Achievement Test Mathematics

Middle School Level: Score Ranges

Description: Students who score below average (under the 40th percentile compared with national norms) may be at risk of failure in mathematics. Average scores (40th to 60th percentile) are predictive of satisfactory performance in mathematics. Students who score above average (over the 60th percentile) are likely to be able to achieve at a high level. In all analyses of MAT6 scores, the percentages are based on the total number of eligible students, not solely those who took the test. The eligible population includes the following students: Regular education, Special Needs in .1 and .2 prototypes, and Bilingual Education in Lau Steps 4 and 5. In addition to the eligible population, schools are encouraged to include all students in Bilingual Education Steps 2 and 3 and Special Education Prototypes .3 and .4 who are able to take the test..

Historical Perspective: Systemwide, during the past three years, the percentage of eligible middle school students scoring at each of the three proficiency levels in mathematics has remained relatively stable. There was an increase in the percentage of students scoring in the above average range in SY1991-92.

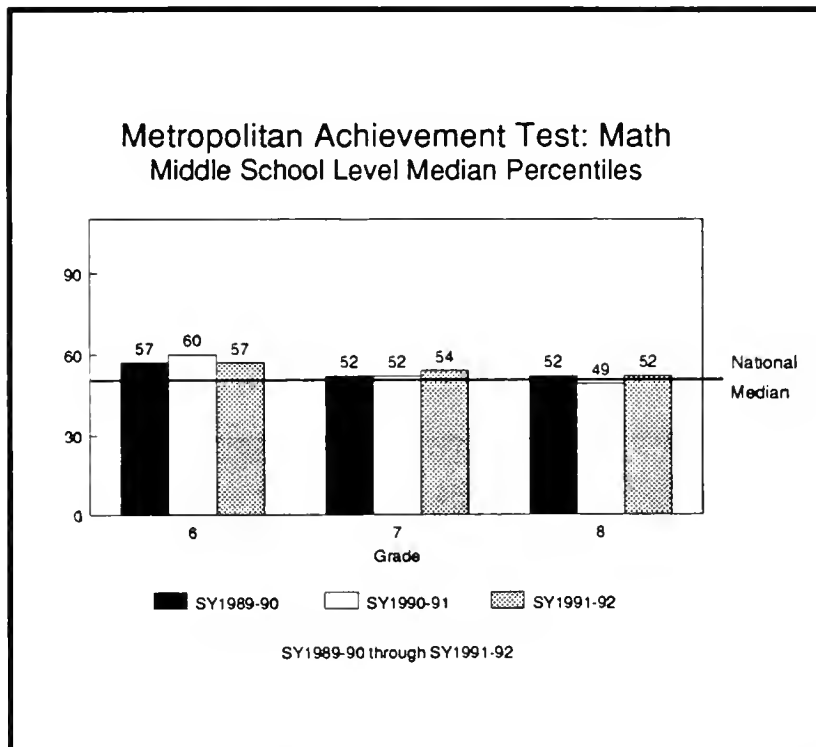


Metropolitan Achievement Test Mathematics

Middle School Level: Score Ranges

Median Percentile Between SY1989-90 and SY1991-92: During the past three years, the me-

dian percentile at each middle school grade has remained fairly stable, at or above the national average on the mathematics test. The median for 7th grade students increased by 2 percentile points during the past year.



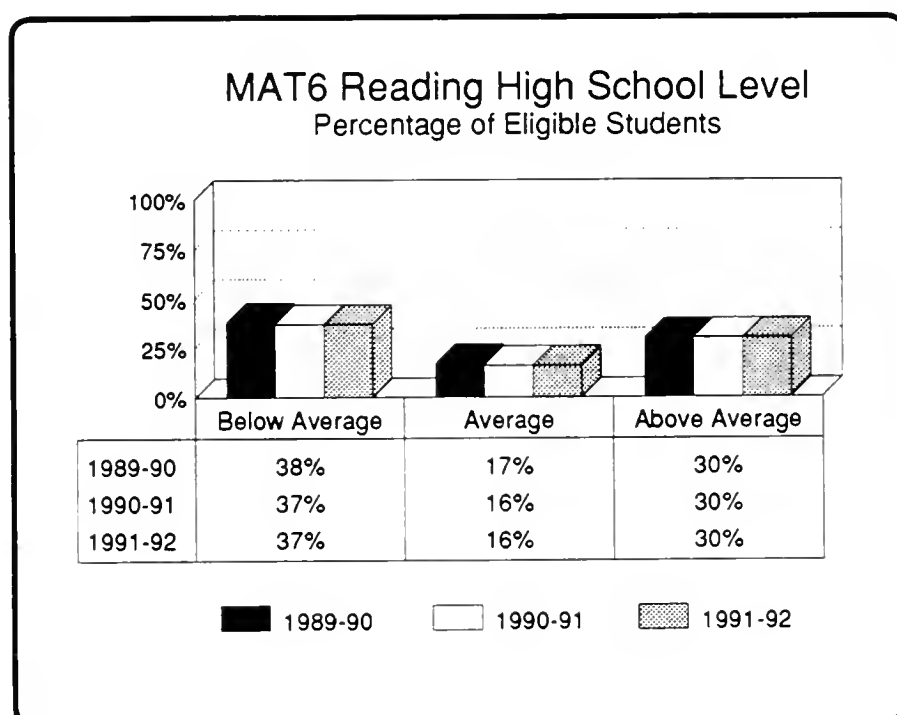
Metropolitan Achievement Test Reading

High School Level: Score Ranges

Description: Students who score below average (under the 40th percentile compared with national norms) may be at risk of failure in reading. Average scores (40th to 60th percentile) are predictive of satisfactory performance in school subjects which rely on reading skills. Students who score above average (over the 60th percentile) are likely to be able to achieve at a high level. In all analyses of MAT6 scores, the percentages are based on the total number of eligible students, not solely those who took the test. The eligible population includes the following students: Regular education, Special Needs in .1 and .2 prototypes, and Bilingual Education in Lau Steps 4 and 5. In addition to the eligible population, schools are encouraged to include all students in Bilingual Education Steps 2 and 3 and Special Education Prototypes .3 and .4 who are able to take the test.

Historical Perspective: During the past three years, the percentage of eligible high school students scoring at each of the proficiency levels on the Reading test has been essentially constant.

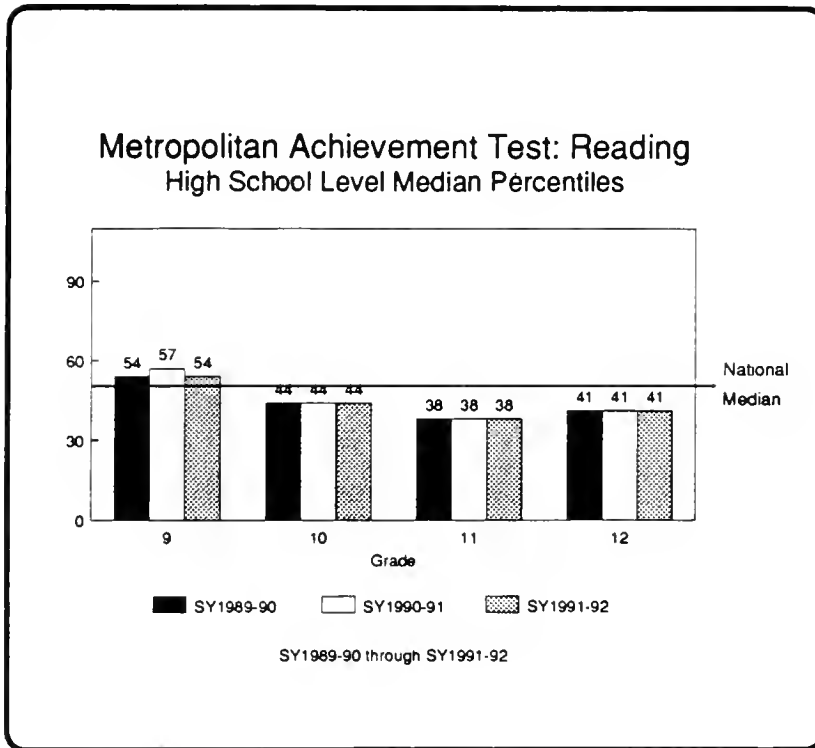
The number of students scoring above average is about 10 percentage points less than the national norming sample.



Metropolitan Achievement Test Reading High School Level: Score Ranges

Median Percentile Between SY1989-90 and SY1991-92: Among the high school grade levels,

grade 9 students continually scored higher than national average on the reading test. The median performance at grades 10 through 12 has remained constant at the 44th, 38th and 41st percentile, respectively, for the past three years.



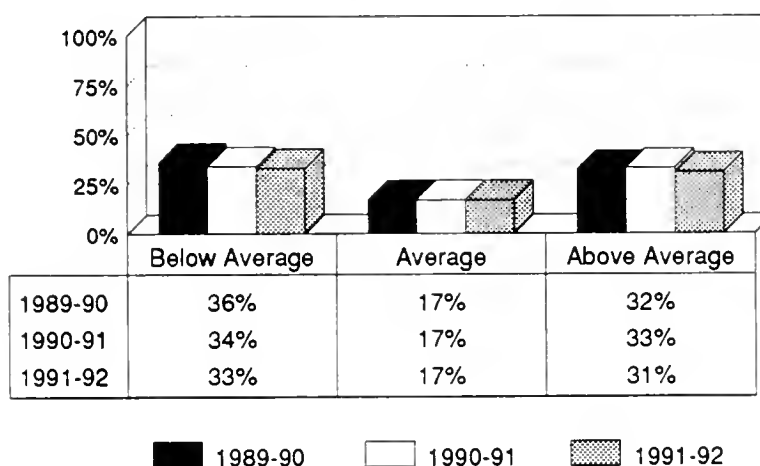
Metropolitan Achievement Test Mathematics High School Level: Score Ranges

Description: Students who score below average (under the 40th percentile compared with national norms) may be at risk of failure in mathematics. Average scores (40th to 60th percentile) are predictive of satisfactory performance in mathematics. Students who score above average (over the 60th percentile) are likely to be able to achieve at a high level. In all analyses of MAT6 scores, the percentages are based on the total number of eligible students, not solely those who took the test. The eligible population includes the following students: Regular education, Special Needs in .1 and .2 prototypes, and Bilingual Education in Lau Steps 4 and 5. In addition to the eligible population, schools are encouraged to include all students in Bilingual Education Steps 2 and 3 and Special Education Prototypes .3 and .4 who are able to take the test..

Historical Perspective: Systemwide, during the past three years, the percentage of eligible students scoring below average on the Metropolitan Achievement Test in mathematics has steadily decreased from 36% for SY1989-90 to 33% for SY1991-92. This most recent percentage is seven points lower than the national norming sample (40%).

There were essentially no changes in the percentage of students in the other two proficiency ranges.

MAT6 Mathematics High School Level
Percentage of Eligible Students



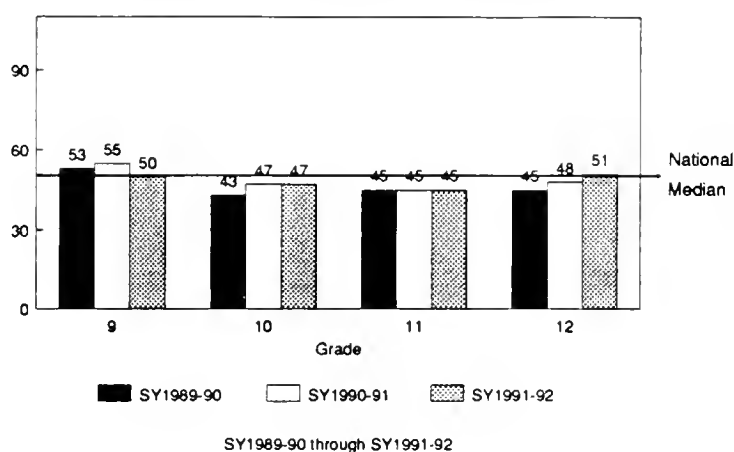
Metropolitan Achievement Test Mathematics

High School Level: Score Ranges

Median Percentile Between SY1989-90 and SY1991-92: During the past three years, the

mathematics median percentile for grades 9 through 11 has remained nearly stable, at or slightly below the national average. During this period, grade 12 students have steadily increased from the 45th percentile in SY1989-90 to the 51st percentile in SY1991-92.

Metropolitan Achievement Test: Math
High School Level Median Percentiles



Student Performance in Perspective

Comparison of Boston and Other Cities on the Metropolitan Achievement Test

Most large city school systems have standardized testing programs, though they vary somewhat in the grades tested and the tests employed. Using as a source the 1990-1991 data presented in *National Urban Education Goals: Baseline Indicators, 1990-91* (The Council of the Great City Schools, September, 1992), Boston's results for 1990-1991 can be compared to those of other large cities. Data are shown in three categories: the percentage of students scoring in the bottom quarter (with respect to national norms); the percentage of students scoring in the top quarter; and the percentage of students scoring above the national average (50th percentile).¹

Most of the Great City Schools districts use tests other than the Metropolitan Achievement Test (MAT6) which is used in Boston. However, three districts (New York, Houston, and Long Beach) do use the MAT6, though in different grades from Boston. In order to make the comparisons shown below, Boston's data have been recalculated to show exactly the same grades as those used in the other cities.

Long Beach

Students in grades 2, 4, 7, 9 and 11 are compared on both Reading and Mathematics. The performance of Boston students is substantially better on all three indices; the differences are especially large for Reading.

Houston

Students in grades 1 through 9 are compared on both Reading and Mathematics. Again, the comparisons all favor Boston students, and the differences are larger for Reading than for Mathematics.²

¹ There is slight difference in how the Boston assigned students to the "Bottom Quarter". Boston included percentile scores of 1-24 in the lowest group, while the GCS included percentiles 1 through 25. Boston included percentiles from 50-99 as "Above National Norm" while GCS included percentiles 51-99. Both Boston and GCS included percentiles of 76-99 in the "Top Quarter." The impact of this difference is relatively small.

² Houston students in grades 1-6 who are instructed in Spanish take the Spanish Assessment of Basic Education norm referenced test instead of the MAT6; their results are combined with those of the MAT6. There were 8079 students who took the SABE in 1991; this constitutes a small proportion of Houston's total test scores.

Student Performance in Perspective

New York City

New York uses the MAT6 for Mathematics only, in grades 1-8. The comparison indicates that Boston has a smaller proportion of students in the lowest category of performance, but also a smaller proportion in the highest category (above 75th percentile). The proportions of students scoring above the national norm are almost identical.

Reading		Bottom Quarter	Top Quarter	Above Norm
Grades 2, 4, 7, 9, 11	Boston	22.0%	26.3%	51.5%
	Long Beach	35.6%	19.2%	39.9%
Grades 1-9	Boston	19.7%	26.6%	52.9%
	Houston	27.1%	22.0%	44.4%
Mathematics				
Grades 2, 4, 7, 9, 11	Boston	18.0%	31.8%	57.4%
	Long Beach	26.7%	28.5%	49.9%
Grades 2-8	Boston	15.0%	33.0%	59.9%
	New York City	18.3%	37.6%	60.8%
Grades 1-9	Boston	15.4%	33.8%	60.3%
	Houston	18.7%	32.6%	57.1%

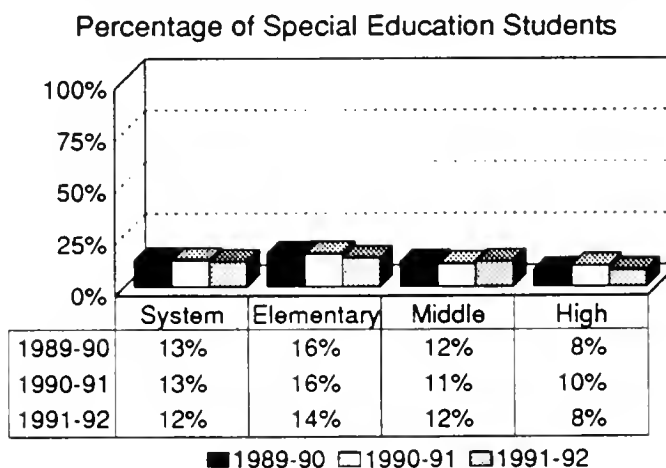
School Involvement Practices

Special Education Prototype Increase

Description: A student's prototype is increased if he or she is moved into a more restrictive or separate educational setting; the student spends less time (if any) in regular education. This definition also includes students who move from regular education into Special Education. Prototype increases, while sometimes necessary, are contrary to Special Education's overall goal, which is to mainstream students as much as possible. Prototype increase percentages are calculated based on the number of students with increases divided by the total number of the students with a Special Education Prototype. It should be noted that certain categories of Special Needs programs are less likely to have changes in prototypes than others.

Historical Perspective: Systemwide, during the past three years, the percent of Special Education students with prototype increases has remained around 13% with a slight decrease to 12% for SY1991-92. At the elementary school level the percent has decreased from 16% for SY 1989-90 to 14% for SY1991-92. At the middle school level the percent has remained around 12%. At the high school level the percent has remained around 8%.

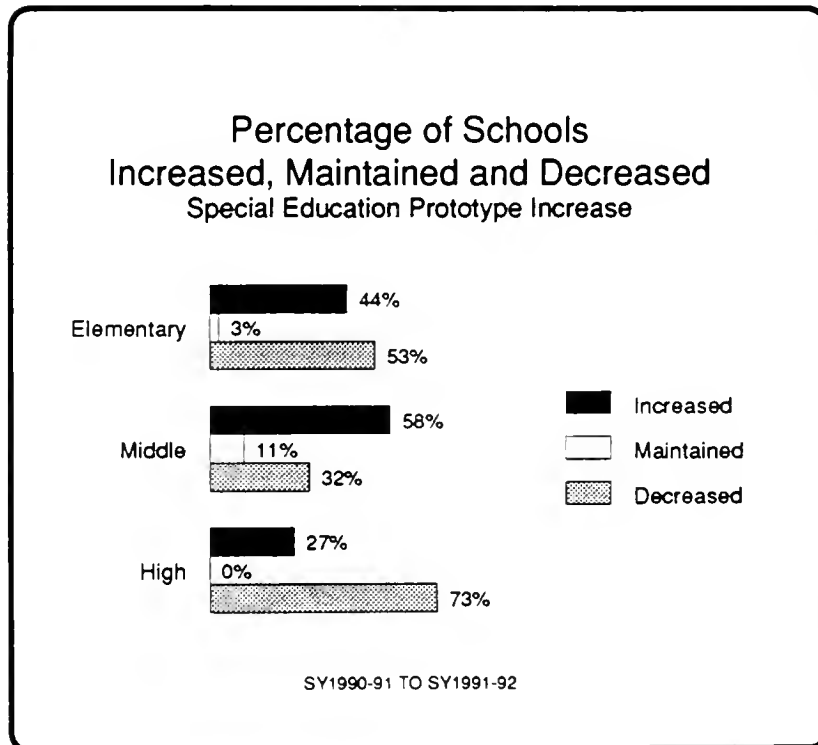
Special Education Prototype Increases



Special Education Prototype Increase

Change Between SY1990-91 and SY1991-92: More than half of the elementary schools and

almost three-fourths of the high schools showed improvement between SY1990-91 and SY1991-92. This means that they showed decreases in the percentage of Special Needs students moving into more restrictive settings (i.e., increases in prototype). One-third of the middle schools also showed improvement.

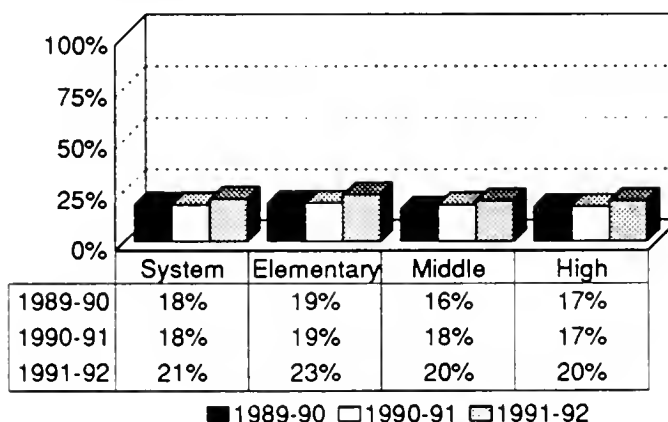


Special Education Prototype Decrease

Description: A student's prototype is decreased if he or she is moved into a less restrictive or separate educational setting; the student spends more time in regular education. This definition also includes students who are totally mainstreamed out of Special Education. Prototype decreases reflect Special Education's overall goal, which is to mainstream students as much as possible. Prototype decrease percentages are based on the number of students with decreases divided by the total number of the students with a Special Education Prototype. It should be noted that certain categories of Special Needs programs are less likely to have changes in prototypes than others.

Historical Perspective: Systemwide, during the past three years, the percent of Special Education students with prototype decreases increased from 18% for SY1989-90 to 21% for SY1991-92. All three levels have shown a steady movement of students from higher to lower prototypes. At the elementary school level the percent of downward changes has increased from 19% for SY1989-90 to 23% for SY1991-92. At the middle school level the percent increased from 16% for SY1989-90 to 20% for SY1991-92. At the high school level the percent increased from 17% for SY1989-90 to 20% for SY1991-92.

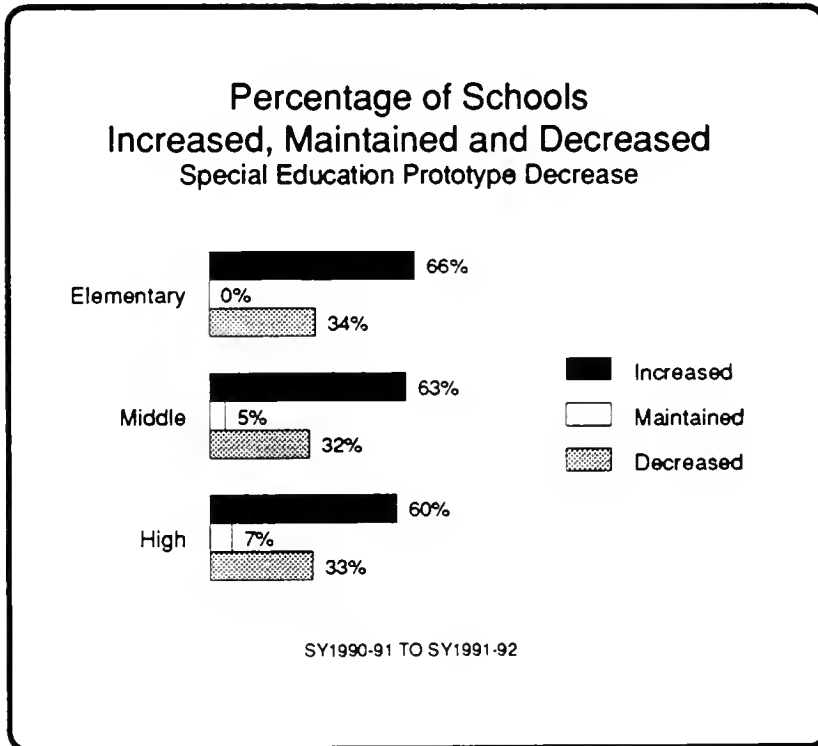
Special Education Prototype Decreases
Percentage of Special Education Students



Special Education Prototype Decrease

Change Between SY1990-91 and SY1991-92: Over 60% of all schools had a larger proportion

of Special Needs students with prototype decreases (movements to a less restrictive setting) in SY1991-92 than in SY1990-91.



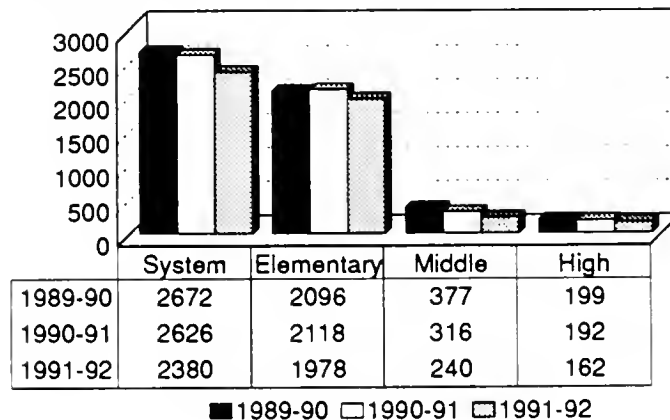
Special Education New Referrals

Description: This indicator is a count of all new referrals to Special Education within the school year. A referral to Special Education suggests that the student's needs could not be met within the regular education program. It should be noted that prior to 1991-1992, the referral is attributed to the last school the student attended; from 1991-1992 on it is attributed to the school in which the referral occurred.

Historical Perspective: Systemwide, the number of new referrals to Special Education decreased 11% from SY1989-90 to SY1991-92. All three levels have shown a decrease in the total number of new referrals to Special Education. At the elementary school level where the bulk of new referrals come from, the number of new referrals to Special Education decreased 6% from SY1989-90 to SY1991-92. At the middle school level the number of new referrals decreased 36% from SY1989-90 to SY1991-92. At the high school level the number of new referrals decreased 19% from SY1989-90 to SY1991-92.

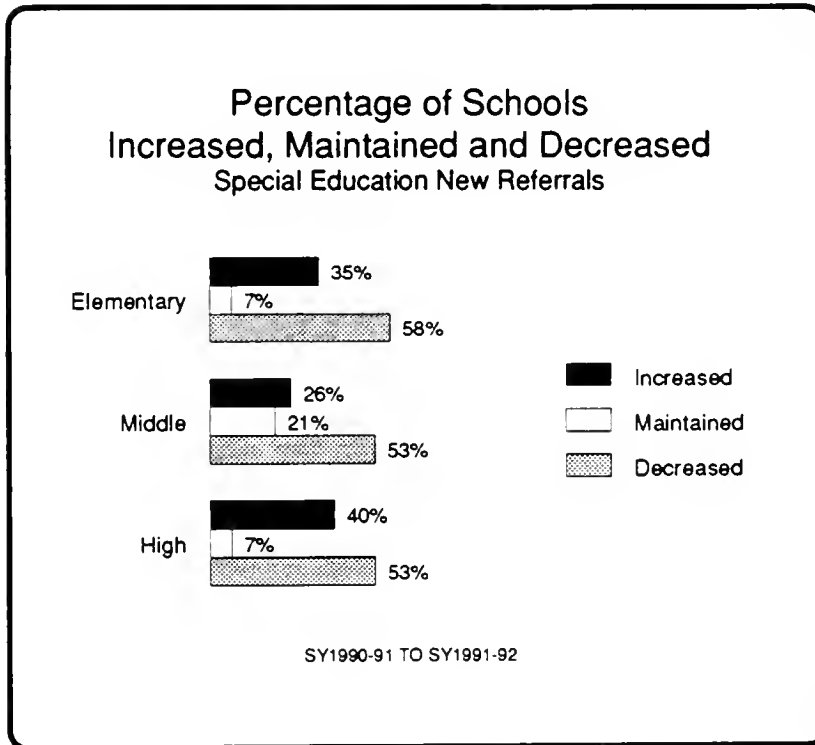
Special Education New Referrals

Total Number of Students Referred to Special Education



Special Education New Referrals

Change Between SY1990-91 and SY1991-92: Over half of all schools showed improvement by reducing the number of new referrals to Special Education between SY1990-91 and SY1991-92.

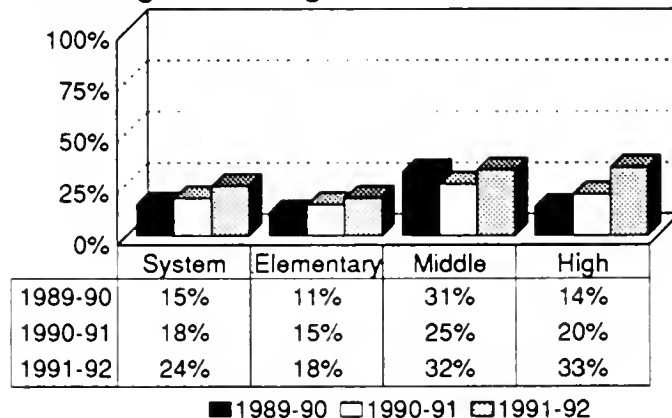


Bilingual Education Step Increase

Description: A Lau Step increase is defined as a change to Step 3, 4, or 5. Students moving out of the Bilingual Education Program altogether (i.e., from Step 5 to regular education) are not included. Step increases reflect the success of the program in moving students into more mainstreamed or regular education classroom settings. Step changes are determined by comparing Step assignments at the end of one year with the Step assignment at the end of the previous year. (However, Step increases which occur after May 15 are credited to the following year.) The percentage is based on the number of students with Step increases divided by the total Bilingual Education program enrollment.

Historical Perspective: Systemwide, during the past three years, the percentage of Bilingual program students with Lau Step increases has risen steadily from 15% in SY1989-90 to 24% in SY1991-92. All three levels have shown improvement in the percentage of Bilingual program students with Step increases. At the elementary school level the percentage of students with Step increases jumped from 11% in SY1989-90 to 18% for SY1991-92. At the middle school level the percentage rose 1% since SY1989-90. At the high school level the percentage of students with Step increases jumped from 14% in SY1989-90 to 33% for SY1991-92.

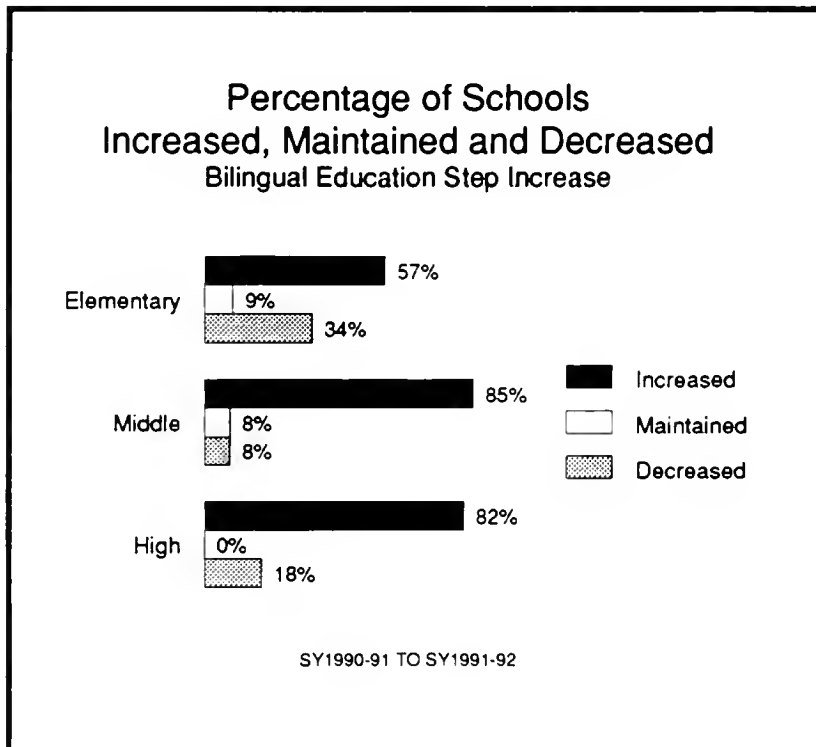
Bilingual Education Step Increase
Percentage of Bilingual Education Students



Bilingual Education Step Increase

Change Between SY1990-91 and SY1991-92: Over 80% of the middle and high schools and

over 50% of the elementary schools increased the proportion of Bilingual Education students who had Lau Step increases (moved toward mainstreaming) between SY1990-91 and SY1991-92. (This analysis focused on the 59 schools which have bilingual programs).

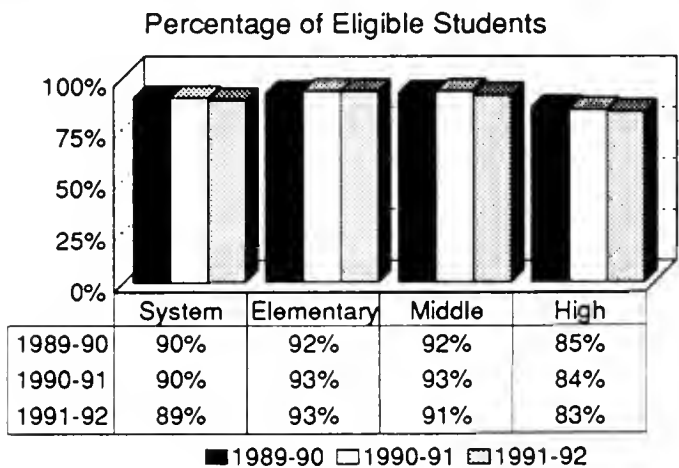


Metropolitan Achievement Test Reading: Students Taking the Test

Description: It is important both from an instructional perspective and in terms of school accountability that as many students as possible who are defined as eligible should be regularly assessed for their level of achievement. For the MAT6 test, the eligible population includes the following groups of students: regular education, Special Needs in .1 and .2 prototypes, and Bilingual Education in Lau Steps 4 and 5. It is important to note that although the test scores of Special Needs students in .3 and .4 Prototypes and Bilingual Education students in Lau Steps 1, 2, and 3 are not included in systemwide calculations, these children are administered the test if at all possible.

Historical Perspective: Systemwide, during the past three years, the percentage of eligible students taking the Metropolitan Achievement Test in Reading has remained fairly stable at around 89% to 90%. The rate has fluctuated only about 1 percentage point each year for the elementary, middle, and high school levels.

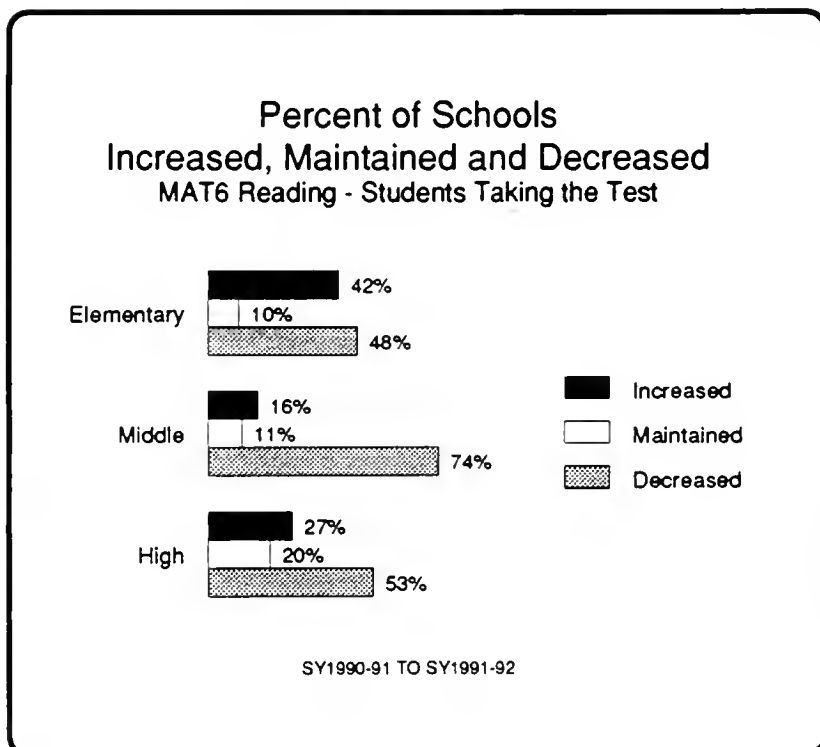
MAT6 Reading - Students Taking the Test



Metropolitan Achievement Test Reading: Students Taking the Test

Change Between SY1990-91 and SY1991-92: Among elementary schools, over 40%

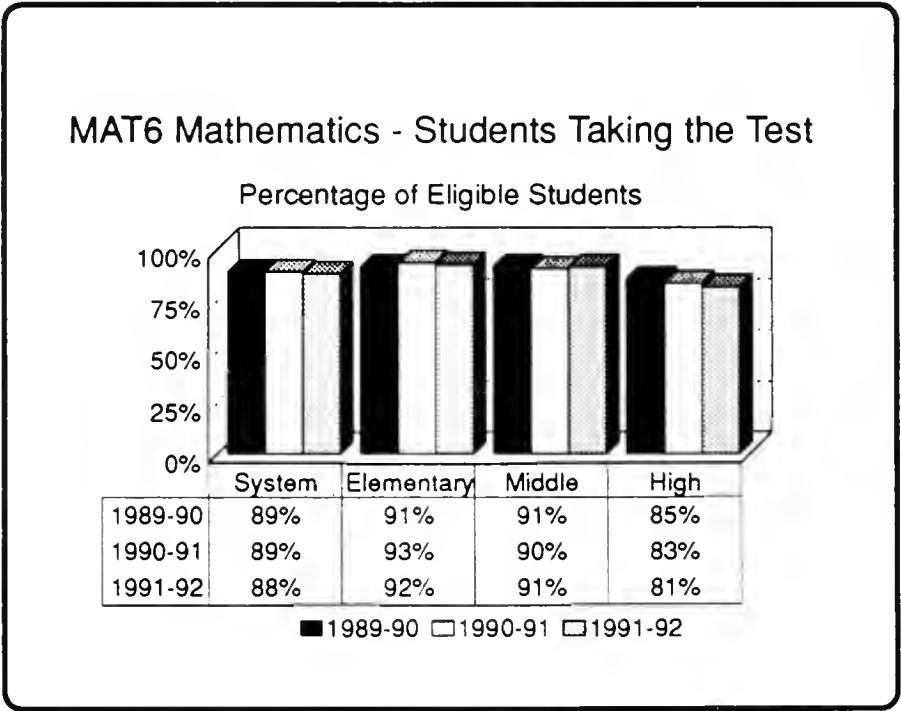
showed an increase in the proportion of eligible students taking the Reading test between SY1990-91 and SY1991-92. Only 16% of middle schools and 27% of high schools increased the percentage of eligible students taking the test between the two years.



Metropolitan Achievement Test Mathematics: Students Taking the Test

Description: It is important both from an instructional perspective and in terms of school accountability that as many students as possible who are defined as eligible should be regularly assessed for their level of achievement. For the MAT6 test, the eligible population includes the following groups of students: regular education, Special Needs in .1 and .2 prototypes, and Bilingual Education in Lau Steps 4 and 5. It is important to note that although the test scores of Special Needs students in .3 and .4 Prototypes and Bilingual Education students in Lau Steps 1, 2, and 3 are not included in systemwide calculations, these children are administered the test if at all possible.

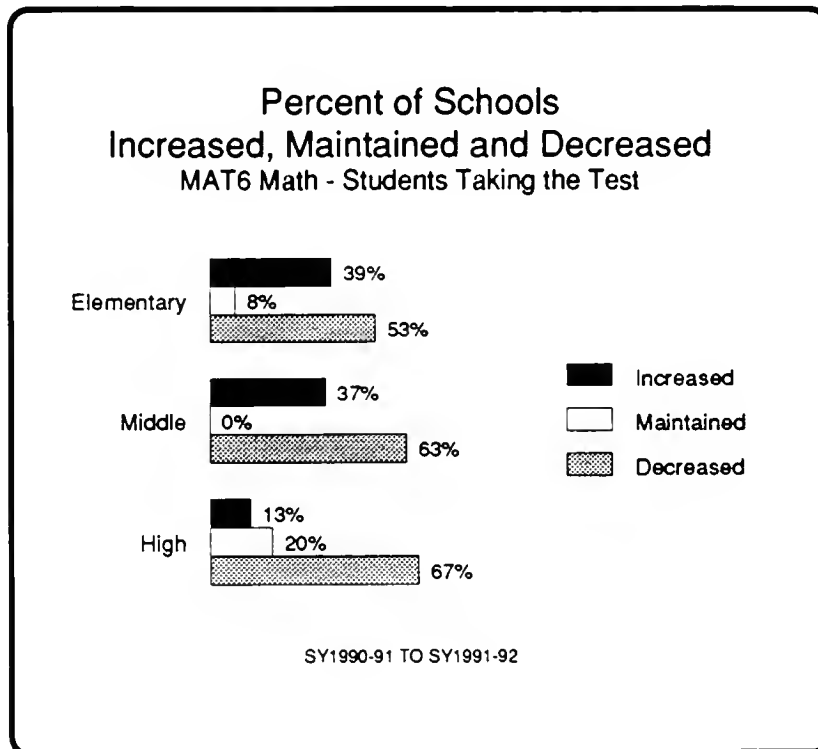
Historical Perspective: Systemwide, during the past three years, the percentage of eligible students taking the Metropolitan Achievement Test in mathematics has remained fairly stable at around 88% to 89%. The rate has fluctuated only about 1 percentage point each year for the elementary and middle school levels.



Metropolitan Achievement Test Mathematics: Students Taking the Test

Change Between SY1990-91 and SY1991-92: While nearly 40% of the elementary and middle schools showed increases in the percentage of eligible students taking the test, only 13% of high

schools did so. At all three levels, there were more schools showing decreases than increases between SY1990-91 and SY1991-92.



Appendix A

Appendix A

Table 1 Supporting Indicators Included in the <u>End-of-Year-Report</u>	
Student Attendance	
- Perfect Attendance	
- Absent 5 or Fewer Days	
- Absent Between 6 - 10 Days	
- Absent 11 or More Days	
Bilingual Education Students	
- In Program 3 Years or Less	
- In Program More Than 3 Years	
Special Education New Referrals	
- Referred by School	
- Referred by External Agencies	
- Referred by Parent	
- With Pre-Referral Not Waived	
Average Staff Attendance	
- 0 Sick Days	
- 1 to 5 Sick Days	
- 6 to 10 Sick Days	
- 11 or More Sick Days	
School Choice	
- Regular Education Students Administratively Assigned After Round I	

Appendix A: Technical Issues

For this systemwide indicators report, the data have been combined in various ways which will be described below.

Systemwide Aggregate Summary

As noted in the text of this report, the Systemwide Aggregate Summary represents an effort to combine the individual indicators into groups (SchoolHolding Power/Climate, Student Achievement, and School Involvement Practices) and to summarize the findings in terms of improvement or decline. In order to make this analysis possible and the aggregate graphs interpretable, all of the indicators had to be represented by the same metric. Accordingly, change on all indicators, even those which were originally counts (e.g., suspension occurrences) was converted into percentage change between SY1990-91 and SY1991-92 with SY1990-91 as the base year..

In addition to using the same metric, each indicator had to be put on the same direction on a scale of "improvement" or "decline." For most of the indicators, "improvement" is reflected in an increase from one year to the next. For example, if a school's student attendance is 96% in one year and 98% the next year, then it has improved. However, for several indicators, for instance, dropouts, "improvement" is represented by a *decrease* from one year to the next. Thus, if a school had a 14% dropout rate one year and a 12% dropout rate in the next year, this decrease represents an *improvement* in the school's performance.

In order to make the graphs for the aggregate summary relatively straightforward, all changes which are improvements are shown as positive percentages. To do this, two different ways of computing the changes from one year to the next in the aggregate data were used. Where an increase is an improvement in performance, the number (or percentage) for SY1990-91 is subtracted from the number (or percentage) for SY1991-1992 and divided by the number (or percentage) for SY1990-91. The resulting number multiplied by 100 gives the percentage improvement over SY1990-91 which the school showed by the end of SY1991-92. Where an improvement in performance is represented by a decrease in the indicator (and therefore the SY1991-92 number is expected to be smaller than that of the prior year), the SY1991-92 figure is subtracted from the SY1990-91 figure. The rest of the calculation is the same. An example of the calculations is given below.

School A: SY1990-91 attendance, 96%; SY1991-92 attendance, 98%. Increases represent improvement, so the SY1990-91 figure is subtracted from the SY1991-92 in order to calculate the percent of improvement or decline.

$(98-96)/96 = 2/96$, multiplied by 100, gives an improvement of slightly over 2%.

School B: SY1990-91 dropout, 14%; SY1991-92 dropout, 14%. For dropout, an increase represents a decline in school performance, so the SY1991-92 figure is subtracted from the SY1990-91 figure in order to calculate the percent of improvement or decline.

Appendix A: Technical Issues

$(12-14)/12 = -2/12$, multiplied by 100, gives a decline in performance (represented by the negative number) of -16.7%.

Analysis of Individual Indicators

Two different analyses are presented for each of the 19 individual indicators. The first is an historical analysis by school level (elementary, middle, high, and systemwide). The second is a comparison of the percentage of schools at each level which increased, decreased, or stayed the same for each indicator over the last two years.

Historical Comparisons

For the historical comparisons, the unit of analysis was intended to be all individual students at a given level. This would mean that the data for all students classified as elementary, for instance, would be grouped and counts made or percentages calculated based on all students at the particular level. (It should be noted that this is *not* the same as taking the values for each school and adding them together and dividing by the number of schools at a particular level.) In some instances, the actual calculation of the average was done using data aggregated for the entire school but then 'weighted' by the school's enrollment. This procedure leads to a very close approximation of the intended analysis. This method of calculation was used with the Average Daily Student Attendance because the reports from which it was derived are only available for schools as a whole. In other instances, such as Percentage Promoted, the data had already been aggregated by school and the weighting procedure was a straightforward approach. For Staff Attendance, school level data were weighted by the number of staff at each school.

Another issue was the analysis of data from schools with grades at more than one school level, for instance the Hernandez with grades K-8, or Boston Latin Academy, with grades 7-12. Depending on the format of the data, one of two different procedures was used to assign the school's data to a school level. For those indicators for which data were available by school ID (as noted in the table at the beginning of this technical discussion), each school was assigned a level based on its predominant grades. Specifically, schools with an elementary school number (such as the Tobin and the Hernandez) had their data included at the elementary level, and schools with a high school number (such as Boston Latin School and Boston Latin Academy), had their data counted with the high schools. However, some indicators (as shown on the table, e.g., Dropouts and Percentage Promoted) were available separately by grade. For these seven indicators, the data for students in multi-level schools were counted at their appropriate level. For example, dropout data for grades 6-8 in Boston Latin Academy were included in the middle school analyses, and the data for grades 9-12 were applied to the high school analyses.

Metropolitan Achievement Test

For the MAT6 scores, students are grouped into one of 3 categories: below average, average, and above average. The percentage is determined by dividing that number by the

Appendix A: Technical Issues

total number of eligible students in the school. Thus, since not all eligible students take the test, the total percent of the three groups is always less than 100%.

Changes in Schools

In these analyses, for each indicator the data for each school in SY1990-91 was compared with the data for the school in SY1991-92. If the percentage (or count, depending on which indicator was being considered) was bigger in SY1991-92 than in SY1990-91, the school was counted among those that increased. If the percentage or count was smaller in SY 1991-92 than in SY1990-91, the school was counted among those that decreased. For data which were percentages (e.g., Promotions), the differences were calculated to one decimal point and then rounded to a whole point. For example, if a school's promotion rate in the earlier year was 96.3% and in the second year it was 96.6%, the increase (0.3) would be less than one-half a percentage point and therefore rounded down to zero. Had the second year's rate been 96.9%, with a difference of 0.6, the difference would have been rounded up to one and the school counted as having increased in promotion rate. After the classification of each school's data, the percentage of schools at each level which showed an increase, stayed the same, or decreased was calculated.

Schools were included in the analysis only if they had complete data for both years. For most of the analyses, there were 77 elementary schools, 19 middle schools, and 15 high schools. Exceptions, such as Bilingual Education Step Increase, are noted in the text.

Each school was counted only once, even if it had students at more than one grade level. A school was assigned to the level where it had the most students. Thus, the Hernandez and Tobin were counted with elementary schools, and Boston Latin School and Boston Latin Academy were counted with high schools. For the School Choice data, the first choices for grade 1 and grade 6 for the Tobin and Hernandez schools were combined to get a total for the school. For dropout data, since dropout is not counted among elementary school students, the data for the 6th-8th graders in the Tobin and the Hernandez were counted as if the schools were middle schools. However, dropout data for all grades in Boston Latin School and Boston Latin Academy were applied to the high school analysis.

Schools Included and Excluded from the Analyses

For the Systemwide Aggregate data and the Historical Comparisons, schools were included in an analysis in any year in which they existed. For example, the Holmes Elementary School was included, even though it did not open until SY1991-92. This procedure was appropriate in order to account for all the included students who were in the system in any given year. The procedure necessarily differed for the School Change analyses, since a school had to have data for two years in order to be included.

In developing all three analyses, certain special programs and schools were not included in the calculations. These include the Horace Mann School, the McKinley Schools, the

Appendix A: Technical Issues

Carter School, the Science/Tech Program (for middle school students), Boston Prep, and Another Course to College.

